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ABSTRACT

This issue of the journal contains citations of articles and other publications, many in translation, on aspects of information science of interest to the language field, including: linguistics and computation, mechanical translation, quantitative linguistics, computer science, information science, theoretical linguistics, languages, machine-assisted language learning, automation in the humanities and social sciences, language sciences, and related fields and applications. It also contains cumulative subject and author indexes for the journal's 1970 issues. (MSE)

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CENTER FOR APPLIED LINGUISTICS · WASHINGTON, D.C.

Language and Automation

An International Reference Publication

NUMBER 4 WINTER 1970

LINCS

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PREFACE

Language and Automation is designed to meet the growing demand for substantial, timely coverage of the literature dealing with the interfaces of linguistics, computation, information science, and related fields. It constitutes a significant experiment in international cooperation under the auspices of the International Committee on Computational Linguistics in an area of increasing importance within contemporary science and technology.

The Language Information Network and Clearinghouse System (LINCS) project of the Center for Applied Linguistics has initiated an appropriate data base to which valuable bibliographic information is being contributed by a number of cooperating institutions in several countries. With support from the National Science Foundation, the concept of cooperation is being explored with a view toward the eventual establishment of an international information network for the language sciences.

To the extent possible, new ways of processing and publishing bibliographic data will be investigated. Technical complexity and economic considerations will of necessity limit our innovations.

The active cooperation of all the users of *Language and Automation* is invited. Institutions willing to join the cooperative network for bibliographic information are asked to contact the executive editor at their earliest convenience. Readers are urged to send in their comments, so that *Language and Automation* can be made more responsive to their needs.

A. Hood Roberts
Alfred Pietrzyk
Adam G. Woyna

COOPERATING INSTITUTIONS

Bar-Ilan University, Ramat-Gan, Israel

Coordinator: *Asa Kasher*

Centre d'Etudes pour la Traduction Automatique, Grenoble, France

Coordinator: *Bernard Vauquois*

Bibliographer: *Marie-Claude Rochas*

Division of Computer Research and Technology, National Institutes of Health, Bethesda, Md.

Coordinator: *Milos Pacak*

Bibliographer: *George Dunham*

IBM Thomas J. Watson Research Center, Yorktown Heights, N.Y.

Coordinator: *Warren J. Plath*

Bibliographer: *H. Catharine Dietrich*

Institut fur deutsche Sprache, Mannheim, Germany

Coordinator: *Paul J. Wolfangel*

Bibliographer: *J. Boening*

Laborator Algebraicke Lingvistiky, Charles University, Prague, Czechoslovakia

Coordinator: *Petr Pitha*

Bibliographer: *Eva Benesova*

The MITRE Corporation, Bedford, Mass.

Coordinator: *Richard S. Glantz*

The National Language Research Institute, Tokyo, Japan

Coordinator: *Etsutaro Iwabuchi*

Bibliographer: *Shiro Hayashi*

Oddeleni matematicke lingvistiky, Ustav pro jazyk cesky CSAV, (Department of Mathematical Linguistics, Institute of the Czech Language), Prague, Czechoslovakia

Coordinator: *Marie Tesitelova*

Bibliographer: *Marie Ludvikova*

Projet de Traduction Automatique (CETADOL), University of Montreal, Canada

Coordinator: *Brian Harris*

Bibliographer: *Gilles Gauthier*

The Rand Corporation, Santa Monica, Calif.

Coordinator: *Martin Kay*

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Center for Applied Linguistics, Washington, D.C.

Coordinator: *A. Hood Roberts*

Bibliographers: *Frederick Bauman, Catherine Hollan, Ludmila Okreglak, Hedi St. Denis, Joy Varley (Indexer), Carl Wilson*

DOCUMENT AVAILABILITY

The institutional affiliation of the first author is given, where known, in the third line of each entry, directly following the author's name. For documents which can be obtained from one of the sources below, availability information is given in square brackets at the end of the bibliographic citation.

Dissertation Abstracts: Document must be ordered from University Microfilms, 300 North Zeeb Road, Ann Arbor, Mich. 48106. Do not send payment with order; an invoice will be sent at time of shipment. Minimum charge for any order is $3.00. Order by publication number and author's name and specify kind of copy (microfilm or xerography) desired.

ERIC: Documents must be ordered, by the ED number given, from the ERIC Document Reproduction Service, LEASCO Information Products, Inc., 4827 Rugby Avenue, Bethesda, Md. 20014. The prices for hard copies (HC) and microfiche (MF) are listed for individual documents as part of the availability information. As of March 1971, MF are $0.65 per title; HC are $3.29 per 100 pages ($3.29, 1-100 pages; $6.58, 101-200 pages; $9.87, 201-300 pages). Payment must accompany orders under $10.00; there is no handling charge. All U.S. payments must include appropriate sales tax. Where MF or HC is not indiciated, inquiries concerning the document's availability should be directed to the author or publisher.

KVAL: Documents may be ordered by PM number from Research Group for Quantitative Linguistics (KVAL), Fack, Stockholm 40, Sweden.

NTIS: Documents can be ordered, by the number given, from the National Technical Information Service (NTIS -- formerly Clearinghouse for Federal Scientific and Technical Information), 5285 Port Royal Road, Springfield, Va. 22151. Most Clearinghouse reports are priced as follows: in paper copy (HC) $3.00 (1-300 pages); $6.00 (301-600 pages); $9.00 (601 up pages); microfiche (MF) $0.95. Any document more than two years old costs a minimum of $6.00. For other documents the prices are listed in the individual citations. For orders of five or more copies of a single report, a price quotation should be obtained from NTIS.

OSTI: Reports from OSTI can be obtained from the Office for Scientific and Technical Information, Department of Education and Science, 39 York Road, London SE1, England.

USGPO: National Bureau of Standards documents may be ordered by SD catalog number from the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402.

PERIODICALS CITED IN NUMBERS 1-4, 1970

[Listings include the most up-to-date information available to the editors on frequency, price, and subscription address (SA) of a given periodical. Comments from users on inaccurate or incomplete listings will be appreciated.]

Acta Linguist

Acta Linguistica. Academiae Scientiarum Hungaricae. Budapest, Hungary. Semi-annual, with two double nos. to a volume. $16. SA: Kultura, Fo utca 32, Budapest I Hungary.

Acta Linguist Hafnien

Acta Linguistica Hafniensia. International Journal of Structural Linguistics. Copenhagen, Denmark. Semi-annual. Kr.76; $10.25. SA: Munksgaard, 47 Prags Boulevard, DK - 2300 Copenhagen S., Denmark.

Acta Univ Carol

Acta Universitatis Carolinae. Series Mathematica et Physica. Prague, Czechoslovakia. Semi-annual. SA: Universita Karlova, Ovocny trh 3, Prague, Czechoslovakia.

AERA (Am Educ Res Assoc)

American Educational Research Journal. Washington, D.C. Quarterly. $8.00; single issue $3.00. SA: American Educational Research Association, 1126 16th Street, N.W., Washington, D.C. 20036.

AILA Bull (Assoc Int Linguist Appl)

AILA Bulletin (Association Internationale de Linguistique Appliquée). Stockholm, Sweden. Five or six times a year. SA: AILA Secretariat, c/o Prof. Max Gorosch, Skiljevagen 32, 182 36 Danderyd, Sweden.

Akust Zh

Akusticheski Zhurnal. Moscow, USSR. Quarterly. 4.80 rub. SA: Kuznetzki most, dom 9/10, Moscow, USSR.

Am Ann Deaf

American Annals of the Deaf. Washington, D.C. Five times a year. $5.00. SA: Executive Manager, Conference of Executives of American Schools for the Deaf, 5034 Wisconsin Avenue, N.W., Washington, D.C. 20016.

Am Behav Sci

American Behavioral Scientist. Beverly Hills, Calif. $15 institutional; $10 professional and teacher; $7.50 student; add $1.00 for foreign. SA: SAGE Publications, Inc., 275 South Beverly Drive, Beverly Hills, Calif. 90212.

Am Doc

American Documentation. *See ASIS (J Am Soc Inf Sci). ASIS Journal of the American Society for Information Science.*

Am Sci

American Scientist. New Haven, Conn. Quarterly. $3.50. SA: Sigma Xi, 155 Whitney Avenue, New Haven, Conn. 06510.

Am Transl

American Translator, New York, N.Y. $12.00. SA: American Translators Association, Box 489, New York, N.Y. 10010.

Annu Bull (Res Inst Logop Phoniat, Univ Tokyo)

Annual Bulletin (Research Institut of Logopedics and Phoniatrics, Univ. of Tokyo). Tokyo, Japan. SA: Research Institut of Logopedics and Phoniatrics, Univ. of Tokyo, Faculty of Medicine, Tokyo, Japan.

Anthropol Linguist

Anthropological Linguistics. A Publication of the Archives of Languages of the World. Bloomington, Ind. Annual. $3.50. SA: Dr. Florence M. Voegelin, Anthropology Dep., Indiana Univ., Bloomington, Ind. 47405.

Arch Linguist

Archivum Linguisticum. A Review of Comparative Philology and General Linguistics. Glasgow, United Kingdom and Menston, England. Annual. 50 s.; $8.00. SA: The Publishers, Archivum Linguisticum, The Scolar Press Ltd., 20 Main Street, Menston, England.

ASHA (J Am Speech & Hear Assoc)

ASHA. A Journal of the American Speech and Hearing Association. Washington, D.C. Annual. $15.00; single issue $1.50. SA: ASHA Subscription Office, American Speech and Hearing Association, 9030 Old Georgetown Road, Washington, D.C. 20014.

ASIS (J Am Soc Inf Sci)

ASIS. Journal of the American Society for Information Science. Washington, D.C. Bi-monthly. SA: American Society for Information Science, 1140 Connecticut Avenue, N.W., Suite 804, Washington, D.C. 20036.

Audiov Instr

Audiovisual Instruction. Washington, D.C. Annual. Included in annual dues ($20.00) to all members of Association for Educational Communications and Technology; $12.00 in U.S. and Canada; $13.00 abroad; single issue $1.50. SA: National Education Association Publications Sales, 1201 16th Street, N.W., Washington, D.C. 20036.

Audio-Vis Lang J

Audio-Visual Language Journal. Journal of Applied Linguistics and Language Teaching Technology. London, England. 30 s. UK and Commonwealth; 25 F. France; DM21 Germany; $5.00 U.S. SA: J. Warburton, 102 Margaret Road, New Barnet, England.

Autom Doc & Math Linguist

Automatic Documentation and Mathematical Linguistics. Selected articles from Nauchno-Tekhnicheskaja Informatsija. New York, N.Y. Quarterly. $145; single issue $50. SA: Faraday Press, Inc., 84 Fifth Avenue, New York, N.Y. 10011.

AV Commun Rev

AV Communication Review. Washington, D.C. $8.00 U.S. and Canada; $9.00 abroad; single issue $3.50. SA: Association for Educational Communications and Technology, 1201 16th Street, N.W., Washington, D.C. 20036.

Babel

Babel. Avignon, France. $5.50; DM20; 30 F.; single issue $2.00, 10 F., DM8. SA: Federation Internationale des Traducteurs, Revue Babel, 16 rue A. de Pommartin, 85 Avignon, France.

Behav Sci

Behavioral Science. Ann Arbor, Mich. $10.00 personal; $20.00 library; single issue $2.00 and $4.00. SA: Mental Health Research Institute, Univ. of Michigan, Ann Arbor, Mich. 48104.

Beitr Linguist Inf

Beiträge zur Linguistik und Informationsverarbeitung. Munich, Germany. Three times a year. DM33. SA: R. Oldenbourg Verlag, Rosenheimer Str. 145, Munich 8, Germany.

Bell Lab Rec

Bell Laboratories Record. Murray Hill, N.J. Monthly. $4.00. SA: Bell Telephone Laboratories, Inc., Mountain Avenue, Murray Hill, N.J. 07974.

Bell Syst Tech J

Bell System Technical Journal. New York, N.Y. Ten times a year. $7.00. SA: American Telephone and Telegraph Co., 195 Broadway, New York, N.Y. 10007.

Bull CILA (Comm Interuniv Linguist Appl)

Bulletin CILA. Organe de la commission interuniversitaire suisse de linguistique appliquée. Neuchatel, Switzerland. 10 fr. Swiss personal; 25 fr. Swiss institutional; 15 fr. foreign personal; 25 fr. foreign institutional. SA: E. Roulet, Centre de linguistique appliquee, Universite, 2000 Neuchatel, Switzerland.

Cah Assoc Univ Partiel ou Entier Lang Fr

Les Cahiers de l'Association des Universités partiellement ou entierement de langue française. Montreal, Canada. SA: Univ. of Montreal, P.O. Box 6128, Montreal, Canada.

Cah Linguist Theor Appl

Cahiers de linguistique théorique et appliquée. Bucharest, Romania. Quarterly. SA: CARTIMEX, P.O. Box 134-135, Bucharest, Romania.

Can J Linguist

Canadian Journal of Linguistics. Toronto, Canada. $6.00 subscription included in annual dues to Canadian Linguistic Association. SA: Canadian Linguistic Association Treasurer, G. Plastre, Univ. Laval, Quebec 10e, Canada.

Can J Math

Canadian Journal of Mathematics. Toronto, Canada. Bi-monthly. $18.00. SA: Canadian Mathematical Congress, Univ. of Toronto Press, Toronto, Canada.

Can Med Assoc J

Canadian Medical Association Journal/Le Journal de l'Association Médicale Canadienne. Toronto, Canada. Bi-monthly. $20.00. SA: Mr. James Anderson, Editor, 129 Adelaide St. West, Toronto 110, Canada.

Čas Mod Filol

Časopis pro moderni filologii. Prague, Czechoslovakia. Quarterly. $4.00. SA: Artia, Smecky 30, Prague 1, Czechoslovakia.

Česk Rusist

Československa rusistika. Prague, Czechoslovakia. Five times a year. $3.20. SA: Artia, Smecky 30, Prague 1, Czechoslovakia.

Coll Res Libr

College and Research Libraries. Syracuse, N.Y. Included in membership dues to Association of College and Research Libraries; $10.00 non-members. SA: College and Research Libraries, 50 East Huron Street, Chicago, Ill. 60611.

Commun ACM (Assoc Comput Mach)

Communications of the ACM. A Publication of the Association for Computing Machinery. New York, N.Y. Monthly. Included in membership; $25.00 non-members; single issue $1.50 members, $3.00 non-members. SA: Subscription Dep., Association for Computing Machinery, 1133 Avenue of the Americas, New York, N.Y. 10036.

Commun Sci Lab Q Rep

Communication Sciences Laboratory Quarterly Report. Gainesville, Fla. Quarterly. Free. SA: Communication Sciences Laboratory, A.S.B., Univ. of Florida, Gainesville, Fla. 32601.

Comput & Autom

Computers and Automation. Newtonville, Mass. Monthly. SA: Berkeley Enterprises, Inc., 815 Washington Street, Newtonville, Mass. 02160.

Comput & Biomed Res

Computers and Biomedical Research. New York, N.Y. Quarterly. $24.00. SA: Academic Press, Inc., 111 Fifth Avenue, New York, N.Y. 10003.

Comput & Hum

Computers and the Humanities. Flushing, N.Y. Five times a year. $7.50 individuals; $10.00 institutions. SA: Queens College of the City Univ. of New York, Flushing, N.Y. 11357.

Comput Bull

The Computer Bulletin. Bulletin of the British Computer Society. London, England. Free to members of British Computer Society; 90 s. non-members. SA: The Computer Bulletin, British Computer Society, 23 Dorset Square, London W.1, England.

Comput Decis

Computer Decisions. New York, N.Y. Monthly. Free to 'qualified individuals who use computers'; $15.00 others U.S.; $25.00 Canada and foreign. SA: Hayden Publishing Co., Inc., 850 Third Avenue, New York, N.Y. 10022.

Comput J

The Computer Journal. A Publication of the British Computer Society. London, England. Quarterly. $12.00. SA: British Computer Society, 23 Dorset Square, London W.1, England.

Comput Linguist

Computational Linguistics. Budapest, Hungary. SA: Computing Centre of the Hungarian Academy of Sciences, Budapest, Hungary.

Comput Stud Hum & Verbal Behav

Computer Studies in the Humanities and Verbal Behavior. The Hague, The Netherlands. Quarterly. $10.00. SA: Mouton, P.O. Box 1132, The Hague, The Netherlands.

Comput Surv (US)

Computing Surveys. The Survey and Tutorial Journal of the ACM. New York, N.Y. Quarterly. $40.00 non-members. SA: ACM Membership Subscription Dep., 1133 Avenue of the Americas, New York, N.Y. 10036.

Datamation

Datamation. Greenwich, Conn. $25.00 U.S. and Canada; $38.00 foreign. Reduced rate for students. SA: Technical Publishing Co., P.O. Box 2000, Greenwich, Conn. 06830.

Data Process Mag

Data Processing Magazine. Philadelphia, Pa. Monthly. $8.50. SA: North American Publishing Co., 134 North 13th Street, Philadelphia, Pa. 19107.

Educ Tech

Educational Technology. Saddle Brook, N.J. Monthly. $12.00. SA: Educational Technology Publications, Inc., 456 Sylvan Avenue, Englewood Cliffs, N.J. 07632.

Elem Engl

Elementary English. An official publication of the National Council of Teachers of English. Champaign, Ill. Eight times a year. $10.00. SA: State of Florida Dep. of Education, Room 375, Knott Building, Tallahassee, Fla. 32304.

Engl Lang Teach

English Language Teaching. London, England. 20 s.; $3.00; DM12.50. SA: Subscription Dep., Oxford Univ. Press, Press Road, Neasden, London W.10, England; Germany: Julius Groos Verlag, 6900 Heidelberg, P.O. Box 629, Germany.

Étud Linguist Appl

Études de Linguistique Appliquée. Paris, France. Semi-annual. 30 F. SA: Editions Didier, 4 et 6 rue de la Sorbonne, Paris 5e, France.

Finite String

The Finite String: Publication of the Association for Computational Linguistics. Washington, D.C. 10 times a year. Included in ACL membership: $5.00 non-members. SA: Harry H. Josselson, Chairman, Dep. of Slavic Languages, Wayne State Univ., Detroit, Mich. 48202.

Folia Linguist

Folia Linguistica: Acta Societatis Linguisticae Europaeae. The Hague, The Netherlands. Payment accepted in dollars, pounds, Deutsche Mark, French francs, Belgian francs, Swiss francs, lire. SA: Mouton, The Hague, The Netherlands.

Folia Phoniatr

Folia Phoniatrica. Basel, Switzerland. Bi-monthly. $15.50. SA: S. Karger AG, Arnold-Böcklin-Strasse 25, CH-4000 Basel 11, Switzerland.

For Lang Ann

Foreign Language Annals. New York, N.Y. Quarterly. $6.00. SA: American Council on the Teaching of Foreign Languages, Modern Language Association of America, 62 Fifth Avenue, New York, N.Y. 10011.

Found Lang

Foundations of Language. International Journal of Language and Philosophy. Dordrecht, The Netherlands. Quarterly. $24.70. SA: D. Reidel, P.O. Box 17, Dordrecht, The Netherlands.

Gen Linguist

General Linguistics. University Park, Pa. Semi-annual. $5.00. SA: Pennsylvania State Univ. Press, Univ. Press Building, University Park, Pa. 16802.

Ger Linguist

Germanistische Linguistik. Marburg/Lahn, Germany. SA: Prof. L. E. Schmitt, Editor, Forschungsinstitut fur deutsche Sprache, Marburg/Lahn, Germany.

Ger Q

German Quarterly. Appleton, Wisc. Quarterly. SA: Treasurer, AATG, Muhlenberg College, Allentown, Pa. 18104.

Glossa

Glossa. Burnaby, Canada. $4.50. SA: Dep. of Modern Languages, Simon Fraser Univ., Burnaby 2, Canada.

Grundlagenstud Kybern Geisteswiss

Grundlagenstudien aus Kybernetik und Geisteswissenschaft. Quickborn, Germany. $6.00. SA: Eberhard und Wolfgang Schnelle Verlag, 2085 Quickborn, Germany.

Heb Comput Linguist

Hebrew Computational Linguistics. Ramat-Gan, Israel. SA: Asa Kasher, Editor, Hebrew Computational Linguistics, Bar-Ilan Univ., Ramat-Gan, Israel.

Hephaistos

Hephaistos. Philadelphia, Pa. Quarterly. SA: James T. McDonough, Editor, Office

for Humanistic Research, St. Joseph's College, Philadelphia, Pa. 19131.

Hum Factor
Human Factors. Baltimore, Md. Bi-monthly. $20.00. SA: c/o Periodicals Manager, Johns Hopkins Press, Baltimore, Md. 21218.

IBM Nachr
IBM Nachrichten. Sindelfingen, Germany. Bi-monthly. Free. SA: IBM Deutschland, Internationale Büro-Maschinen Gesellschaft mbH, 703 Sindelfingen, Germany.

IEEE Trans Audio & Electroac
Institute of Electrical and Electronics Engineers: Transactions on Audio and Electroacoustics. New York, N.Y. Quarterly. $18.00. SA: IEEE, 345 East 47th Street, New York, N.Y. 10017.

IEEE Trans Comput
Institute of Electrical and Electronics Engineers: Transactions on Computers. New York, N.Y. Monthly. $42.00 including computer group news. SA: IEEE, 345 East 47th Street, New York, N.Y. 10017.

IEEE Trans Inf Theory
Institute of Electrical and Electronics Engineers: Transactions on Information Theory. New York, N.Y. Issued in parts. Prices vary. SA: IEEE, 345 East 47th Street, New York, N.Y. 10017.

Inf & Control
Information and Control. New York, N.Y. Ten times a year. $22.00. SA: Academic Press, 111 Fifth Avenue, New York, N.Y. 10003.

Inf Sci
Information Sciences. New York, N.Y. Quarterly. $24.00. SA: American Elsevier Publishing Co., Inc., 52 Vanderbilt Avenue, New York, N.Y. 10017.

Inf Sci Can
Information Science in Canada. Toronto, Canada. Quarterly (annually 1971). $8.00. SA: Pendragon House, 71 Bathurst Street, Toronto, Canada 135.

Inf Storage Retr
Information Storage and Retrieval. Elmsford, N.Y. Bi-monthly. $35.00; 280 s. SA: Journals Dep., Maxwell House, Fairview Park, Elmsford, N.Y. 10523.

Int J Am Linguist
International Journal of American Linguistics. Baltimore, Md. Quarterly. $5.00. SA: Editor, Uralic and Altaic Series, Indiana Univ., Patton House, Bloomington, Ind. 47401.

Int J Comput Math
International Journal of Computer Mathematics. New York, N.Y. $28.00. SA: Gordon and Breach Science Publishers, 150 Fifth Avenue, New York, N.Y. 10011.

Int J Man-Mach Stud
International Journal of Man-Machine Studies. New York, N.Y. Quarterly. $16.50. SA: Academic Press, 111 Fifth Avenue, New York, N.Y. 10003.

Int Lang Rep
International Language Reporter. Denver, Colo. Quarterly. $4.00. SA: The International Language Reporter, Box 393, Denver, Colo. 80201.

IRAL (Int Rev Appl Linguist Lang Teach)
IRAL. International Review of Applied Linguistics in Language Teaching / Internationale Zeitschrift für angewandte Linguistik in der Spracherziehung. Heidelberg, Germany. Quarterly. $11.00. SA: International Review of Applied Linguistics in Language Teaching, Chilton Books, Educational Div., 401 Walnut Street, Philadelphia, Pa. 19106.

J ACM (Assoc Comput Mach)
Journal of the ACM (Association for Computing Machinery). New York, N.Y. SA: ACM Membership Subscription Dep., 1133 Avenue of the Americas, New York, N.Y. 10036.

J Acoust Soc Am
Journal of the Acoustical Society of America. New York, N.Y. Monthly. $35.00 U.S., Canada, Mexico; $38.00 elsewhere. SA: American Institute of Physics, 335 East 45th Street, New York, N.Y. 10017.

JAMA (J Am Med Assoc)
JAMA. The Journal of the American Medical Association. Chicago, Ill. SA: 535 North Dearborn Street, Chicago, Ill. 60610.

Jaz Aktual
Jazykovedne aktuality. Prague, Czechoslovakia.

Jaz Čas

Jazykovedný časopis. Prague, Czechoslovakia. SA: Artia, Smecky 30, Prague 1, Czechoslovakia.

J Chem Doc

Journal of Chemical Documentation. Washington, D.C. Quarterly. $14.00. SA: Dr. Herman Skolnik, Editor, American Chemical Society, 1155 16th Street, N.W., Washington, D.C. 20036.

J Commun (Kans)

The Journal of Communication. Lawrence, Kans. Quarterly. $15.00 libraries; single issue $2.50. SA: Michael Z. Sincoff, Executive Secretary, Center for Communication Studies, Ohio Univ., Athens, Ohio 45701.

J Commun (Mich)

The Journal of Communication. Flint, Mich. Quarterly. Included in membership. SA: National Society for the Study of Communication, Dr. Ronald L. Smith, Executive Secretary, Dep. of Communications and Organizational Behavior, General Motors Institute, Flint, Mich. 48502.

J Comput & Syst Sci

Journal of Computer and System Sciences. New York, N.Y. Quarterly. $22.00. SA: Academic Press, 111 Fifth Avenue, New York, N.Y. 10003.

J Doc

Journal of Documentation. London, England. 30 s. members Aslib; 10 non-members. SA: Aslib, 3 Belgrave Square, London S.W.1, England.

J Engl Linguist

Journal of English Linguistics. Bellingham, Wash. $3.00 annual volume. SA: Western Washington State College, Bellingham, Wash. 98225.

J Linguist

Journal of Linguistics. London, England. Semi-annual. 50 s.; $8.00. SA: Professor F. R. Palmer, Editor, Cambridge Univ. Press, 32 East 57th Street, New York, N.Y. 10022.

J Math Psychol

Journal of Mathematical Psychology. New York, N.Y. Three times a year. $30.00. SA: Academic Press, 111 Fifth Avenue, New York, N.Y. 10003.

Jōhō Shori

Jōhō Shori. Tokyo, Japan. Bi-monthly. SA: Building for Promotion of Machine Industry, 21, 1-5 Shiba-koen, Minato-ku, Tokyo, Japan.

J Speech & Hear Disord

Journal of Speech and Hearing Disorders. Washington, D.C. Quarterly. $10.00. SA: Dr. Margaret Byrne, Editor, American Speech and Hearing Association, 9030 Old Georgetown Road, Washington, D.C. 20014.

J Typogr Res

Journal of Typographic Research. Cleveland, Ohio. Quarterly. $11.00. SA: Dr. Merald Wrolstad, Editor, The Cleveland Museum of Art, Cleveland, Ohio 44106.

J Verbal Learn & Verbal Behav

Journal of Verbal Learning and Verbal Behavior. New York, N.Y. $28.00 institutions; $12.00 individuals; in 1971 $30.00 institutions. SA: Academic Press, Inc., 111 Fifth Avenue, New York, N.Y. 10003.

Kibernetika

Kibernetika. Ukraine Academy of Sciences, Kiev, USSR. SA: v/o Mezdunarodnaja Kniga, Moscow G-200, USSR.

Kokubung Gengo Bungei

Kokubungaku Gengo to Bungei [Japanese Language and Literature]. Tokyo, Japan. SA: Society for the Study of Japanese Language and Literature, Tokyo Univ. of Education, Tokyo, Japan.

Kybernetik

Kybernetik. Berlin, Germany. SA: Springer Verlag, P.O. Box 1780, 69 Heidelberg 1, Germany.

Kybernetika

Kybernetika. Prague, Czechoslovakia. Bi-monthly. $10.00. SA: Academia Publishing House of the Czech Academy of Sciences (CSAV), Vodickova 40, Prague 1, Czechoslovakia.

Lab Invest

Laboratory Investigation. Baltimore, Md. Monthly. $30.00. SA: Dr. Robert Stowell,

Editor, Williams & Wilkins Co., 428 East Preston, Baltimore, Md. 21202.

Langages

Langages. Paris, France. Quarterly. 55 F. SA: Didier, 4 et 6 rue de la Sorbonne, Paris 5e, France.

Lang & Speech

Language and Speech. Teddington, England. Quarterly. 10; $27.00. SA: Robert Draper Ltd., 85 Udney Park Road, Teddington, England.

Lang & Style

Language and Style: An International Journal. Carbondale, Ill. $7.50 U.S.; $8.00 abroad; single issue $2.00. SA: Central Publications, Southern Illinois Univ., Carbondale, Ill. 62901.

Lang Learn

Language Learning: A Journal of Applied Linguistics. Ann Arbor, Mich. $3.00 individuals; $5.00 institutions, schools, libraries. SA: Language Learning, 2001 North University Building, Univ. of Michigan, Ann Arbor, Mich. 48104.

Lang Sci

Language Sciences. Bloomington, Ind. SA: Research Center for the Language Sciences, Indiana Univ., 516 East 6th Street, Bloomington, Ind. 47401.

Language

Language. Journal of the Linguistic Society of America. Washington, D.C. $16.00. SA: Linguistic Society of America, Room 800, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036.

Leng Cienc

Lenguaje y Ciencias. Trujillo, Perú. Three times a year. $6.00. SA: Editor, Lenguaje y Ciencias, Dep. de Idiomas y Lingüística, Univ. Nacional de Trujillo, Trujillo, Perú.

Leshonenu

Leshonenu. Jerusalem, Israel. Quarterly. $3.50. SA: Academy of the Hebrew Language, P.O. Box 3449, Jerusalem, Israel.

Leuven Bijdr

Leuvense Bijdragen. Bijblad: Tijdschrift voor Germaanse Filologie. Louvain, Belgium. Quarterly. $5.00. SA: Instituut voor Dialectologie, Vesaliusstraat 2, Louvain, Belgium.

Libr J

Library Journal. New York, N.Y. Monthly. $12.00. SA: R. R. Bowker Co., 1180 Avenue of the Americas, New York, N.Y. 10036.

Lingua

Lingua. Amsterdam, The Netherlands. Six times a year. $15.00. SA: North Holland Publishing Co., P.O. Box 3489, Amsterdam, The Netherlands.

Lingua Stile

Lingua e Stile. Bologna, Italy. Three times a year. L.3000. SA: Societa Editrice Il Mulino, Via Santo Stefano 6, Bologna, Italy.

Linguist Ber

Linguistische Berichte. Braunschweig, Germany. DM40.80 one year; DM72.00 two years; single issue DM8.00. SA: Verlag Friedr. Vieweg & Sohn GmbH, D33 Braunschweig, P.O. Box 185, Germany.

Linguist Doc

Linguistics in Documentation: Current Abstracts. Washington, D.C. Three times a year. $10.00 for standing orders; single issue $4.00. SA: Dr. A. Hood Roberts, Executive Secretary, Committee on Linguistics in Documentation of the Federation Internationale de Documentation, Center for Applied Linguistics, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036.

Linguistics

Linguistics: An International Review. The Hague, The Netherlands. Nine times a year. Single issue $3.00. SA: Mouton, P.O. Box 1132, The Hague, the Netherlands.

Linguist Inq

Linguistic Inquiry. Cambridge, Mass. $12.00 volume; $8.00 students. SA: The M.I.T. Press, 50 Ames Street, Cambridge, Mass. 02142.

Linguistique

La Linguistique. Revue internationale de linguistique generale. Paris, France. 22 F. SA: Presses Univ. de France, 108 Boulevard St. Germain, Paris 6e, France.

Linguist Rep

The Linguistic Reporter. Washington, D.C. Bi-monthly. $1.50; $3.50 air mail. SA: Center for Applied Linguistics, 1717 Massachusetts Avenue, N.W., Washington, D.C. 20036.

Marconi Rev

Marconi Review. Chelmsford, England. Quarterly. $6.00. SA: Marconi Co. Ltd., Great Buddow Labs., Chelmsford, England.

Math Biosci

Mathematical Biosciences. New York, N.Y. Quarterly (in two volumes). $20.00 per volume. SA: Richard Bellman, Editor, American Elsevier Publishing Co. Inc., 52 Vanderbilt Avenue, New York, N.Y. 10017.

Math Linguist

Mathematical Linguistics/Keiryō kokugo. Tokyo, Japan. SA: Mathematical Linguistics Society of Japan, Zenpukuzi 2-Tyome Suginame-ku, Tokyo, Japan.

Math Sci

Mathematical Sciences. Tokyo, Japan. SA: Daiyamondosha, Chiyoda-ku Kasumigaseki 1 no. 4, no. 2, Tokyo, Japan.

Med & Biol Eng

Medical and Biological Engineering. Elmsford, N.Y. Bi-monthly. $40.00. SA: Pergamon Press, 44-01 21st Street, Long Island, N.Y. 11101.

META

META. Formerly Journal des Traducteurs. Montreal, Canada. Quarterly. $3.00. SA: Univ. of Montreal, Montreal, Canada.

Method Inf Med

Methods of Information in Medicine / Methodik der Information in der Medizin. Stuttgart, Germany. Quarterly. $9.00. SA: F. K. Schattauer-Verlag, Lenzhalde 3, P.O. Box 2945, 7 Stuttgart, Germany.

Mod Lang J

The Modern Language Journal. St. Louis, Mo. $5.00; single issue $1.00; $6.00 foreign. SA: Wallace G. Klein, Business Manager, Modern Language Journal, 13149 Cannes Drive, St. Louis, Mo. 63141.

MT: Mech Transl & Comput Linguist

MT: Mechanical Translation and Computational Linguistics - An International Journal. Chicago, Ill. Included in ACL membership, $10.00 non-member; single issue $6.00. SA: Mechanical Translation, Univ. of Chicago, Chicago, Ill. 60637.

Nachr Dok

Nachrichten für Dokumentation. Frankfurt, Germany. Six times a year. DM42. SA: Zweimonatsschrift fur Forschung und Praxis der Dokumentation, 6 Frankfurt/Main 1, Westendstrasse 19, Germany.

NALLD J (Natl Assoc Lang Lab Dir)

NALLD Journal. Newsletter of the National Association of Language Laboratory Directors. Athens, Ohio. $6.00 voting members; $7.00 Canada and foreign; $9.00 library; $4.00 student non-voting. SA: National Association of Language Laboratory Directors, Ohio Univ., Athens, Ohio.

Nauchno-Tekh Inf

Nauchno-Teknicheskaja Informatsija. A publication of the Institute of Scientific and Technical Information of the USSR (VINITI). Moscow, USSR. *See Automatic Documentation and Mathematical Linguistics.*

Neuer Sprach

Die Neueren Sprachen. Frankfurt, Germany. Monthly. DM36; DM28.80 students; single issue DM3.40. SA: Verlag Moritz Diesterweg, 6 Frankfurt/Main 1, Hochstrasse 31, Germany.

Neue Tech

Neue Technik. Zürich, Switzerland. Monthly. 75 fr. SA: Fred Ammann, Editor, Verlag Neue Technik A.G., Tiefenhoefe 11, CH 800 Zürich, Switzerland.

Nippon Buntai Kyokai

Nippon Buntairon Kyokai [Japanese Studies in Stylistics]. Osaka, Japan. SA: Tezukayamahigashi 3, Osaka Joshidaigaku Eibungaku Kenkyushitsu, Osaka, Japan.

NSPI J (Natl Soc Program Instr)

NSPI Journal. Official monthly publication of the National Society for Programmed Instruction. San Antonio, Tex. Ten times a year. $20.00 non-members. SA: Trinity Univ., 715 Stadium Drive, San Antonio, Tex. 78212.

OAR Res Rev (Off Aerosp Res)

OAR Research Review. Washington, D.C. SA: Office of Scientific and Technical Information, Headquarters, Office of Aerospace Research, USAF, 4th Street and Independence Avenue, S.W., Washington, D.C. 20033.

Pap Lang & Lit

Papers on Language and Literature. Edwardsville, Ill. Quarterly. $5.00. SA: Central Publications, Southern Illinois Univ., Edwardsville, Ill. 62025.

Pap Linguist

Papers in Linguistics. Edmonton, Canada. Three times a year. $12.00. SA: Linguistic Research, Inc., 9116 83rd Street, Edmonton, Canada.

Pens Linguag Oper

Pensiero e Linguaggio in Operazioni / Thought and Language in Operation. Milan, Italy. SA: Torre Velasca 5, 20100 Milan, Italy.

Philipp J Lang Teach

Philippine Journal for Language Teaching. Quezon City, Philippines. Quarterly. $2.50. SA: Institute for Language Teaching, College of Education, Univ. of the Philippines, Diliman, Quezon City, Philippines.

Philipp J Linguist

Philippine Journal of Linguistics. Manila, Philippines. Semi-annual. SA: Teodoro A. Llamzon, S.J., Editor, Ateneo Language Center, P.O. Box 154, Manila, Philippines.

Phil Prag

Philologica Pragensia. Prague, Czechoslovakia. SA: Artia, Smecky 30, Prague 1, Czechoslovakia.

Phonetica

Phonetica. International Journal of Phonetics. Basel, Switzerland. Two annual volumes of eight numbers each. 68 fr. per volume; $16.20; DM68. SA: S. Karger AG, Arnold-Böcklin-Strasse 25, CH-4000 Basel 11, Switzerland.

Phys Bull

Physics Bulletin. New York, N.Y. Monthly. $8.40. SA: American Institute of Physics, 335 East 45th Street, New York, N.Y. 10017.

PMLA

PMLA. Publications of the Modern Language Association of America. New York, N.Y. Seven times a year. Included in membership dues; single issue $3.00; two special issues, $4.00 each. SA: Modern Language Association Materials Center, 62 Fifth Avenue, New York, N.Y. 10011.

Prague Bull Math Linguist

Prague Bulletin of Mathematical Linguistics. Prague, Czechoslovakia. Irregular. Kcs.5. SA: Artia, Smecky 30, Prague 1, Czechoslovakia.

Probl Ergeb Psychol

Probleme und Ergebnisse der Psychologie. Leipzig, Germany. SA: Deutscher Buch-Export und Import, Leninstrasse 16, 701 Leipzig, Germany.

Program Learn & Educ Technol

Programmed Learning and Educational Technology. Journal of the Association for Programmed Learning and Educational Technology. London, England. 2 individual members; 7 7 s. institute members; 10 10 s. company members; 3 15 s. others; single issue 1. SA: Sweet & Maxwell, Ltd., 11 New Fetter Lane, London, E.C.4, England.

Programm Lern & Programm Unterr

Programmiertes Lernen und Programmierter Unterricht. Bielefeld, Germany. DM16. SA: Cornelsen Verlag, Bielefeld, Germany.

Psychol Rep

Psychological Reports. Missoula, Mont. Bi-monthly. Two volumes. $40.00. SA: Psychological Reports, Box 1441, Missoula, Mont. 59801.

Q J Speech

Quarterly Journal of Speech. Speech Association of America. New York, N.Y. Quarterly. $12.50. SA: Speech Association of America, Statler Hilton Hotel, New York, N.Y. 10001.

Read Res Q

Reading Research Quarterly. Newark, Del. Quarterly. $10.00. SA: International Reading Association, 6 Tyre Avenue, Box 695, Newark, Del. 19711.

RECALL

RECALL. Review of Educational Cybernetics and Applied Linguistics. London, England. Three times a year. $3.15. SA: Longmac Ltd., 72 Tottenham Court Road, London W.1, England.

Rev Assoc Univ Partiel ou Entier Lang Fr

La Revue de l'Association des Universites partiellement ou entierement de langue francaise. Montreal, Canada. SA: Univ. de Montreal, P.O. Box 6128, Montreal, Canada.

Rev ITL (Inst Appl Linguist Louv)

Review of the ITL / Review of the Institute of Applied Linguistics. Louvain, Belgium. Quarterly. 250 fr.; $5.00. SA: Institute of Applied Linguistics, Vesaliusstraat 2, Louvain, Belgium.

Rev Phonet Appl

Revue de Phonetique Appliquée. Mons, Belgium. Three times a year. $6.00. SA: Centre Universitaire de L'Etat, Mons, Belgium.

Rev Romane

Revue Romane. Copenhagen, Denmark. Kr.35. SA: Romansk Institute, Univ. Copenhagen, Dyrkolb 3, 1166 Copenhagen, Denmark.

Rev Roum Linguist

Revue Roumaine de Linguistique. Bucharest, Romania. Six times a year. $7.00; 35 F.; DM28. SA: CARTIMEX, P.O. Box 134-135, Bucharest, Romania.

Rev Roum Math Pures Appl

Revue Roumaine de Mathematiques Pures et Appliquées. Bucharest, Romania. 10 times a year. 5 8 s.; $13.00; 65 F.; DM65. SA: CARTIMEX, P.O. Box 134-135, Bucharest, Romania.

Rev Roum Sci Soc

Revue Roumaine des Sciences Sociales. Serie de Psychologie. Bucharest, Romania. Two times a year. 40 lei. SA: CARTIMEX, P.O. Box 134-135, Bucharest, Romania.

Revue

Revue. Organisation Internationale pour l'Etude des Langues Anciennes par Ordinateur. Liege, Belgium. SA: L.A.S.L.A., 110 Boulevard de la Sauveniere, Liege, Belgium.

Sb Pr Brnenske Univ

Sbornik Praci Brnenske University. Prague, Czechoslovakia.

Sb Pr Filos Fak Brnenske Univ Rada Jaz

Sbornik Praci Filosofické Fakulty Brnenske University. Rada Jazykovedna. Brno, Czechoslovakia. Annual. Kcs.30,000-1. SA: Knizni velkoobchod, Prague 1, Czechoslovakia.

Sb Věd Pr Lek Fak

Sborník Vědeckých Prací Lékařské Fakulty. Prague, Czechoslovakia. SA: Charles Univ., Prague, Czechoslovakia.

Science

Science. Washington, D.C. Weekly. $12.00. SA: American Association for the Advancement of Science, 1515 Massachusetts Avenue, N.W., Washington, D.C. 20005.

Semiotica

Semiotica. The Hague, The Netherlands. Quarterly. 40 f.; single issue 12 f. SA: Éditions Mouton, P.O. Box 1132, The Hague, The Netherlands.

Shakespeare Newsl

Shakespeare Newsletter. Chicago, Ill. Quarterly. $1.50; $1.75 foreign. SA: Univ. of Illinois at Chicago Circle, Chicago, Ill. 60680.

SIGSAM Bull (Spec Int Group of ACM/ Symb & Algeb Manip)

Special Interest Group of the Association for Computing Machinery/Symbolic and Algebraic Manipulation Bulletin. New York, N.Y. Quarterly. Included in membership dues; $5.00 non-members; $2.00 students; $10.00 libraries and institutions. SA: Association for Computing Machinery, 1133 Avenue of the Americas, New York, N.Y. 10036.

Simulation

Simulation. La Jolla, Calif. Monthly. $18.00. SA: Simulation Councils, Inc., P.O. Box 2228, La Jolla, Calif. 92037.

Slav & East Eur J

The Slavic and East European Journal. Madison, Wisc. Quarterly. SA: Professor J. Thomas Shaw, Editor, Univ. of Wisconsin Press, Journals Dep., P.O. Box 1379, Madison, Wisc. 53706.

Slovo Slovest

Slovo a Slovestnost. Prague, Czechoslovakia. Quarterly. $6.00. SA: Artia, Smecky 30, Prague 1, Czechoslovakia.

Slov Rec

Slovenská reč. Prague, Czechoslovakia. Bi-monthly. Kcs.30. SA: Artia, Smecky 30, Prague 1, Czechoslovakia.

Sociolinguist Newsl

Sociolinguistics Newsletter of the Sociolinguistics Research Committee: International Sociological Association. Regensburg, Germany. Three times a year. 10 F. SA: Claude Metais, 10 rue A. Bartholdi, Paris 15e, France.

Soc Sci Inf

Social Science Information. Paris, France. Bi-monthly. $18.00. SA: Mouton, 39 Ave. Philippe Auguste, Paris 11e, France.

Sprache

Die Sprache. Zeitschrift für Sprachwissenschaft. Vienna, Austria. Semi-annual. $12.00. SA: Otto Harrassowitz Verlag, Taunusstrasse 5, Wiesbaden, Germany.

Sprache Tech Zeit

Sprache im technischen Zeitalter. Stuttgart, Germany. Quarterly. DM14. SA: Professor Dr. Walter Hollerer, Editor, W. Kohlhammer Verlag, GmbH, Urbanstr. 12-14, P.O. Box 747, 7000 Stuttgart 1, Germany.

Sprachmittler

Der Sprachmittler. Bonn, Germany. SA: Bundessprachenamt Übersetzerdienst, Nebeniusstrasse 9, 68 Mannheim, Germany.

Stat Method Linguist

Statistical Methods in Linguistics. Stockholm, Sweden. Semi-annual. $3.00. SA: Språkforlaget Skriptor, Fack, Stockholm 40, Sweden.

Stud Cercet Mat

Studii şi Cercetări Matematice. Bucharest, Romania. $10.00; 4 4 s.; 49 F.; DM40. SA: Interprinderea de comert exterior -- LIBRI, P.O. Box 134-135, Bucharest, Romania.

Stud Gen

Studium Generale. Heidelberg, Germany. SA: Springer Verlag, P.O. Box 1780, 6 Heidelberg 1, Germany.

Stud Linguist (Swed)

Studia Linguistica. Revue de linguistique générale et comparée. Lund, Sweden. Semi-annual. Kr.15; single issue Kr.8. SA: Studia Linguistica, C.W.K. Glerups Forlag, Lund, Sweden.

Stud Linguist (Tex)

Studies in Linguistics. Dallas, Tex. Quarterly. $7.50. SA: Dep. of Anthropology, Southern Methodist Univ., Dallas, Tex. 75222.

Style

Style. Fayetteville, Ark. Three times a year. $3.50. SA: Box 1533, Univ. of Arkansas, Fayetteville, Ark. 72701.

Synthese

Synthese. An International Journal for Epistemology, Methodology and Philosophy of Science. Dordrecht, The Netherlands. Quarterly. 64.80 f.; $18.35 institutions; 39.80 f., $11.15 individuals. SA: D. Reidel Publishing Co., P.O. Box 17, Dordrecht, The Netherlands.

TA Inf

T.A. Informations. Revue Internationale des Applications du Traitement Automatique du Langage. Paris, France. Semi-annual. 60 F. SA: Foreign: Librairie Klincksieck, 11 rue de Lille, Paris 7e, France. United States: Univ. of Alabama Press, Drawer 2877, University, Ala. 35486.

Te Reo

Te Reo. Auckland, New Zealand. Annual. SA: Linguistic Society of New Zealand, c/o Univ. of Auckland, Private Bag, Auckland, New Zealand.

Times Lit Suppl

The Times Literary Supplement. London, England. Weekly. $14.00. SA: Times Newspapers Ltd., Printing House Square, London E.C.4, England.

Vopr Jaz

Voprosy Jazykoznanija. Moscow, USSR. Bi-monthly. 7.20 rub. SA: V/O Meždunarodnaja kniga, Moscow G-200, USSR.

Wiss Z Hochsch Verkehrswes 'Friedrich List'

Wissenschaftliche Zeitschrift der Hochschule für Verkehrswesen 'Friedrich List'. Dresden, Germany. Quarterly. DM207. SA: Friedrich-List-Platz 1, Dresden 801, Germany.

Word

Word. New York, N.Y. Three times a year. $7.50; $5.00 students. SA: The International Linguistic Association, City Univ. of New York, Convent Avenue and 139th Street, New York, N.Y. 10031.

Z Exp & Angew Psychol

Zeitschrift für experimentelle und angewandte Psychologie. Göttingen, Germany. Quarterly. DM64. SA: Verlag für Psychologie C. A. Hogrefe, P.O. Box 414, Brentanoweg 10, 34 Göttingen, Germany.

Znamya

Znamya: Literaturno-Khudozhestvennyi i Obshchestvenno-politicheski zhurnal. Moscow, USSR. Single issue 55 Kop. SA: Soyuz Posatelei SSSR, Tverskov Bulv. 25, Moscow K-104, USSR.

Z Phonet Sprachwiss & Kommun

Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung. Berlin, Germany. Six times a year. M60. SA: Deutscher Buch-Export und Import., Leninstr. 16, 701 Leipzig, Germany.

Abstracting Journals and Reports Consulted

Bibliogr Mod Fremdsprachenunter

Bibliographie Moderner Fremdsprachenunterricht. Heidelberg, Germany. Quarterly. DM35. SA: Arbeitskreis zur Förderung und Pflege Wissenschaftlicher Methoden des Lehrens und Lernens, Heidelberg, Hans-Thoma-Strasse 72, Germany.

Bull Signal 101 (Inf Sci & Tech)

Bulletin Signalétique 101 (Information Scientifique et Technique). Paris, France. Monthly. 100 F. SA: Éditions du Centre National de la Recherche Scientifique, 9061-11 Paris, France.

Bull Signal 524 (Sci Lang)

Bulletin Signalétique 524 (Sciences du Langage). Paris, France. Quarterly. 65 F. SA: Éditions du Centre National de la Recherche Scientifique, 9061-11 Paris, France.

R&D Reports

U.S. Government Research and Development Reports. Springfield, Va. Semi-monthly. $30.00; $37.50 abroad; single issue $3.00. SA: U.S. Dep. of Commerce Field Office or National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22151.

Ref Z VINITI Kibern

Referativnyj Zurnal VINITI: Kibernetika. Moscow, USSR. Monthly. 1.04 rub. SA: Professor A. I. Mixajlov, Editor, Baltijskaja Ul., 14 Moscow, A-219, USSR.

RIE Reports

ERIC Research in Education. Washington, D.C. Monthly. $21.00; $26.25 abroad; single issue $1.75. SA: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

GENERAL

Selected materials of general interest, including bibliographies, collections, proceedings, and literature surveys.

1209.70

BIBLIOTECA NACIONAL, Rio de Janeiro (Brazil), Divisão de Publicações e Divulgação, Seção de Exposições

[Published works of 1968] Exposição lançamentos do ano 1968. Rio de Janeiro: Biblioteca Nacional, 1969, 177 p. In Portuguese.

Bibliography with sections on cybernetics, bibliography and catalogs, education and teaching, philology. 878 unannotated entries.

1210.70

FEDERAL COUNCIL FOR SCIENCE AND TECHNOLOGY, Washington, D.C., Committee on Scientific and Technical Information

Progress in scientific and technical communications: 1968 annual report. COSATI-69-5. Sponsored by Federal Council for Science and Technology. 1969, viii, 90 p.

6th (1968) annual report of COSATI covering Atomic Energy Commission, Deps. of Agriculture, Commerce, Defense, Health Education and Welfare, Interior, State, Transportation; also Agency for International Development, General Services Administration, Library of Congress, National Aeronautics and Space Administration, National Science Foundation, Smithsonian Institution, Veterans Administration, Federal Library Committee. Five appendices.

1211.70

FISCHER, HELLMUTH; GAHSE, SIGFRID

[Handbook of automatic data processing] Handbuch der automatischen Datenverarbeitung. Munich: Moderne Industrie, 1970, 1000 p. DM172. In German.

Covers management and data processing, applications of data processing, structure and the working method of aggregates of data processing, development of data processing. Includes small dictionary for data processing.

1212.70

GARVIN, PAUL L.

State Univ. of New York, Buffalo, N.Y., Dep. of Linguistics

Specialty trends in the language sciences. LINCS 16-69. Grant NSF GN-771. December 1969, 29 p. [ERIC: ED 034 983 HC$1.75 MF$0.25].

Gives overall characteristics of field of linguistics, comments on broad developmental tendencies; insights into internal intellectual structure; 'hyphenated' fields and other related sciences. 64 refs. – *From the author.*

1213.70

KUNO, SUSUMU, princ. invest.

Harvard Univ., Cambridge, Mass., Aiken Computation Lab.

Mathematical linguistics and automatic translation. NSF-24. February 1970, 347 p. [NTIS: PB 194 855].

Collection of 13 papers on topics of English (and one Japanese) grammatical theory. For individual papers see 1002, 1008, 1027, 1029, 1031, 1072, 1075, 1078, 1126, 1127, *L&A* 3.

1214.70
1970 fall joint computer conference, November 17-19, 1970, Houston, Texas. AFIPS conference proceedings. Vol. 37. Montvale, N.J.: AFIPS Press, 1970, 658 p.

Topics covered include a spectrum of programming languages; modern memory systems; design for reliability; operating systems and schedules; aerospace applications; computer procurement requirements in research and development; multi-access operating systems; analysis of retrieval systems; computer assisted undergraduate instruction; computer communication; computer aided design; interfacing computers and education; survey of time sharing systems; hybrid systems; simulation languages and systems; art, vice and games; computers and manufacturing; effect of government controls in the computing industry; computational efficiency and performance; new directions in programming languages; text processing; communication and on-line systems; selected computer systems architectures; and prospects for analog/hybrid computing. Relevant papers excerpted separately.

1215.70
PIIRAINEN, ILPO TAPANI
[Algebraic linguistics in Eastern Europe] Algebraische Linguistik in Ost-Europa. Linguist Ber, 1970, 9.49-54. In German.

Brief report on the symposium on algebraic linguistics held in Smolenice, Czechoslovakia from February 9-12, 1970.

1216.70
VINCENZ, ANDRÉ DE; MÜLLNER, KLAUS; STECHOW, ARNIM VON
[Formalization and models in linguistics. Report on an international colloquium in Rocquencourt] Formalisation et modèles en linguistique. Bericht über ein internationales Kolloquium in Rocquencourt. Linguist Ber, 1970, 9.54-57. In German.

Brief report on papers delivered at the colloquium April 27-29, 1970.

1217.70
ZISA, CHARLES; OKREGLAK, LUDMILA; GRIFFITH, BELVER C.
Center for Applied Linguistics, Washington, D.C.
A survey of journals in the language sciences. LINCS 18-69. Grant NSF GN-771. September 1969, 18 p. [NTIS: PB 186 111].

Survey of approximately 2,000 titles of which 800 were examined in detail for relevance to language sciences. Three tables give number of journals by percentage of articles in the language sciences, number of core and other language sciences journals by type of publisher, and number of journals by country. Two appendices giving journals nominated by linguists for coverage by a current awareness service and list of language sciences journals examined.

LINGUISTICS AND COMPUTATION

All interfaces between linguistics and computation; automated language processing.

1218.70
BIRBĂNESCU, ADRIAN
Networks of binary relations in natural languages. Electrical analogues. Proceedings

of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 54. 15 p.

Discussion of equivalence of IC, categorial, and relational grammars, cabled logic, difficulties of processing entire language, design of graphs and electrical analogues for limited samples of language, possibility of achieving alternative models of language understanding and translation to those provided by digital programs and computers. 10 refs. – *From the author.*

1219.70

BRANDT CORSTIUS, H.

Mathematisch Centrum, Amsterdam (The Netherlands)

[Automatic formation of indirect speech] Automatische vorming van de indirecte rede. Rev ITL (Inst Appl Linguist Louv), 1970, 9.19-33. In Dutch.

ALGOL program providing exact description of transformation from direct to indirect speech in Dutch can be used for performing this transformation by computer in cases where the situation context plays no great role. – *From the author.*

1220.70

BROAD, DAVID J.; FERTIG, RALPH H.

Speech Communications Research Lab., Santa Barbara, Calif.

Formant-frequency trajectories in selected CVC-syllable nuclei. J Acoust Soc Am, 1970, 47:6(Part 2).1572-1582.

Frequencies of the first three vowel formants in 1728 monosyllables containing the Midwestern American English vowel /I/ (as in fit) were measured by means of a computer assisted technique employing a data display screen, light pen, and television camera. The distributions of the differences between the model trajectories and the actual trajectories are reasonably approximated by normal stochastic processes. Interpreted as variability between syllable tokens of the same syllable type. – *From the author abstract.*

1221.70

BROOK, RICHARD J.

Computer reduction and retrieval of dialect data: A methodology for cartographic and tabular display of lexical and sociolinguistic variation. Ph.D. thesis, Univ. of Iowa, 1970.

1222.70

CRESPI-REGHIZZI, STEFANO

Univ. of California, Los Angeles, Calif., School of Engineering and Applied Science

The mechanical acquisition of precedence grammars. UCLA-ENG-7054. Contract N00014-69-A-0200-4027. June 1970, 189 p. [NTIS: AD 710 349].

The study presents a model and computer program which have practical value for child language learning and other related applications. The primary linguistic data available to the acquisition device include samples of sentences, sample of nonsentences and the set of possible structural descriptions of the sentences in the language. The model is then able to infer a grammar in the class of operator precedence grammars. – *From the 'R&D Reports' author abstract.*

1223.70

FU, KING-SUN; LI, T. J.

Purdue Univ., Lafayette, Ind., School of Electrical Engineering

On stochastic automata and languages. NSF-GK-1970AFOSR-70-2121 TR. Grants

AF-AFOSR-1776-69, NSF-GK-1970. August 1969, 18 p. [NTIS: AD 710 115]. Published in Inf Sci, 1969, 6.403-419.

For the lambda-stochastic languages, a flexible stochastic experimental procedure based on Chebyshev's inequality is proposed. Then, the class of maximum-likelihood stochastic languages is defined on the basis of the maximum-likelihood final-state distribution. Properties of this class of languages and its relationship to lambda-stochastic languages are investigated. (See 232, *L&A* 1.) – *From the 'R&D Reports' author abstract.*

1224.70

GRIMES, JOSEPH E.; ALSOP, JOHN R.; WARES, ALAN
Summer Institute of Linguistics
Computer backup for field work in phonology. MT: Mech Transl & Comput Linguist, 1968, 11:3&4.73-74.

Program reduces a concordance of phonetic segments to a series of taxonomic statements about phoneme distribution (Bloch's criteria for contrast within limited contexts). When applied to Paipai, program found contrast between segments previously identified as allophones. Four refs. – *From the journal abstract.*

1225.70

IL'IN, G. M.; LEJKINA, B. M.; NIKITINA, T. N.; OTKUPŠČIKOVA, M. I.; FITIALOV, S. JA.
[A model of text semantics and the 'request-response' system: Problem statement] Model' semantiki teksta i sistema 'zapros-otvet': k postanovke zadači. Nauchno-Tekh Inf, Series 2, 1969, 1.10-14. In Russian.

Description of a semantic model allowing one to answer questions put to a given text. – *From the journal abstract.*

1226.70

INOUE, KENZŌ
Fujitsu Ltd., Kamikodanaka, Kawasaki (Japan)
[Compiler compiler] Konpaira konpaira. Konpyûta Saiensu Shirîzu. Tokyo: Sangyô tosho, 1970, 255 p. Y1,600. In Japanese.

Description of methods of syntax directed analysis as a selective top-down analyzer and a selective bottom-up analyzer; methods of deterministic analysis for precedence and bound grammars; lexical analysis (ALGOL examples) in relation to the class of regular grammars. Simple semantic describing language is assumed and model of compiler compiler is represented.

1227.70

JAKUŠIN, B. V.; RODIONOV, L. E.; DUBOVIKOI, V. I.
[Experimental testing of a semantic correspondence criterion] Eksperimental'naja proverka odnogo kriterija smyslovogo sootvetstvija. Nauchno-Tekh Inf, Series 2, 1970, 7.28-30. In Russian.

Utilization of the artificially patterned text principle in automatic classification systems described and results shown. Two refs. – *From the journal abstract.*

1228.70

KALMAR, LÁSZLÓ
An intuitive representation of context-free languages. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 66. 10 p.

Discussion of use of flag diagrams in teaching programming languages, theoretical

interest in furnishing natural classification of context-free languages and measure of non-finite state character of given language. Four refs. – *From the author.*

1229.70

KARLGREN, HANS

Research Group for Quantitative Linguistics (KVAL), Stockholm (Sweden)

Multi-index syntactical calculus. Comput Linguist, 1969, 8.5-24. Also available in Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 68. 22 p. (KVAL Interim report no. 15, KVAL ref. no. 448.)

Elaboration of a calculus useful for recognition grammars.

1230.70

KIEFER, FERENC

Research Group for Quantitative Linguistics (KVAL), Stockholm (Sweden)

A progress report on the use of slant grammar calculus for automatic analysis. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 64. 9 p.

Discussion of alternative to categorial grammar for syntactic analysis; automation of some aspects of documentation research, using Swedish nominal phrases. 12 refs.

1231.70

LADEFOGED, PETER

Univ. of California, Los Angeles, Calif.

The measurement of phonetic similarity. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 57. 14 p.

Study bearing on language problems of Uganda; computer program compares phonetic segments specified on basis of weighted (variable), interacting, multivalued, independent or scalar features. Tables. 13 refs. – *From the author.*

1232.70

LEUNBACH, GUSTAV

Danish Institute for Educational Research

Syntactic analysis by alternating computation and inspection. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 15. 7 p.

Discusses construction of automatic procedure for textual analysis; importance for automatic abstracting and indexing; advantages of datamats; problem of unresolved residue.

1233.70

PADUČEVA, E. V.

Academy of Sciences of the USSR, Moscow (USSR), Electromodelling Lab.

[On reduction of coordinate phrases with repeating elements] O sokraščenii sočinitel'nyx grupp s povtorjajuščimisja elementami. Nauchno-Tekh Inf, Series 2, 1969, 2.27-34. In Russian.

Paper describes synonymous transformation which converts compound sentences with a common part into sentences with coordinate parts. Transformation defined with reference to set of significant elements of the sentence plus three relations -- subordination, relation of linear sequence, and anaphora. Transformation is merger of pair of subtrees of tree of subordinations; resulting non-regular tree then transformed

into closest regular one. All rules are of high generality and rarely stipulate any specific features of the elements at the tree nodes. Rules make an essential use of linear sequence of elements. Thus in generating a sentence from its deep structure, it is in principle impossible first to define the syntactic structure completely and only after that the sequences of words. Rules formulated with respect to a restricted, though fairly large, subset of Russian, but can be generalized and extended to other subsets. 20 refs. – *From the journal abstract.*

1234.70

PAUL, JAMES E., JR.

North Carolina State Univ., Raleigh, N.C., Dep. of Electrical Engineering

A limited-vocabulary, multi-speaker automatic isolated word recognition system. September 1969, 145 p. [NTIS: AD 696 206].

Techniques for automatic recognition of isolated words investigated and computer simulation of word recognition system effected. Considered in detail are data acquisition and digitizing, word detection, amplitude and time normalization, short time spectral estimation including spectral windowing, spectral envelope approximation, parametric and adaptive feature extraction, and pattern classification. Recognition accuracies reached 99 percent for a single speaker, 50 word vocabulary, and 96 percent for a three-speaker, 30-word vocabulary. – *From the 'RIE' author abstract.*

1235.70

PETŐFI, JÁNOS S.

On the linear patterning of verbal works of art. Comput Linguist, 1969, 8.37-63.

Linear patterning as network of repetition of elements of various characters that interweave text (as opposed to usual hierarchical patterning). Patterning of the linguistic component as opposed to the sound-textural component. Six refs. – *From the author.*

1236.70

PIIRAINEN, ILPO TAPANI

Univ. of Münster, Münster (Germany), Institut für Sprachwissenschaft

[Historical graphemics and the methods of data processing] Historische Graphematik und die datenverarbeitenden Methoden. Folia Linguist, 1969, 3:1/2.145-152. In German.

Attempts to show that languages in written and printed form can be studied independently of phonological considerations and discusses the role of computerized data processing in such studies.

1237.70

ŠAUMJAN, S. K.; MOVŠON, L. M.

Academy of Sciences of the USSR, Moscow (USSR), Institute of Slavic Studies

[Applicational grammar and information languages] Applikativnaja grammatika i informatsionnye jazyki. Nauchno-Tekh Inf, Series 2, 1970, 2.14-27. In Russian.

Logical Information-Retrieval Systems (LIRS) are higher class of retrieval system. Limited use of grammatical devices in existing systems due to absence of unified formal grammar which would provide for building any discipline oriented language. Hybrid language proposed, its components being vocabulary of natural language and applicational grammar. Sentences of document search patterns are nomological propositions translatable into the language of one-place predicate calculus. Invariance of the grammatical structure is embodied in 19 immanent relations between the vocabulary units of a sentence which is a consequence of the invariance of information these reflect, interpreted as the property of knowledge to remain unchanged under any

transformations (within a given system). An applicational generative model for forming complex grammatical objects out of elementary ones (episemions, semions, and semion bundles) is used. The semantic intersection, in the different problems, of the invariant factors, called ♣ q-factors, forms the logical basis of a LIRS structure. Information language elements are encoded using the highly reliable cyclic addition method. Retrieval in files of varying size has produced promising results. The algorithms were implemented on the Minsk-22 computer. In 1969, pilot runs of the 'Agroelektrin' LIRS in a file of 35,000 items were made. 39 refs. - *From the journal abstract.*

1238.70

SCHANK, ROGER C.

A conceptual dependency representation for a computer-oriented semantics. Ph.D. thesis, Univ. of Texas, Austin, 1969.

1239.70

SCHANK, ROGER C.

Outline of a conceptual semantics for computer generation of coherent discourse. Math Biosci, 1969, 5:1/2.93-119.

Problem of language synthesis for artificial intelligence systems, and elements of such systems; problematical generation of concept and its semantics; structure of semantic lists, specific attributes; ideas on non-problematical generation. 10 refs. - *Transl. from the 'Bull Signal 524 (Sci Lang)' abstract.*

1240.70

SCHULTZ, JEFFREY A.; BIELBY, WILLIAM T.

Univ. of Illinois, Urbana, Ill., Coordinated Science Lab.

An algorithm for the syntactic analysis in the R2 information system. R-494, UILU-Eng-70-239. Grant OF-C-1-7-071213-4557, Contract DAAB07-67-C-0199. October 1970, 44 p. [NTIS: AD 713 431].

Pure syntax parsing algorithm for the R2 question answering system. The parser implemented in LISP 1.5 on an IBM 360/75 computer. Experimental results from the system include examples of the analysis of some compound and complex sentences as well as simple sentences. - *From the 'R&D Reports' author abstract.*

1241.70

SEDELOW, SALLY Y.; DILLON, MARTIN; FISHER, GERALD; SEDELOW, WALTER; SMITH, WALTER

Univ. of North Carolina, Chapel Hill, N.C.

Automated analysis of language style and structure -- 1969-1970. Contract N00014-67-A-0321-0001. September 1970, 163 p. [NTIS: AD 711 643].

Summary of work directed toward comprehensive computer based characterization of natural language text. General purpose thesaurus keypunched, proofread, and corrections made preliminary to an effort to determine the structure of the thesaurus and, in general, to construct parametric models of thesauri. Preliminary approaches to the design of a statistical package for natural language analysis also described, including a program to provide data formats for any type of language analysis. A user's manual for the PL/1, S/360 list-structure and ring-structure VIA packages also included. (See also 858, *L&A* 3.) - *From the 'R&D Reports' author abstract.*

1242.70

SGALL, P.; HAJIČOVÁ, E.

Some remarks on J. L. Mey's paper. Proceedings of the international conference on

computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 20. Metaprint no. 2. 5 p.

Refutation of Mey's arguments that language generated by system he discusses is not context free, that device of discussed type is practically equivalent to universal Turing machine, that machine output is not necessarily recursive set. Eight refs. (See 558, *L&A* 2.) - *From the author.*

1243.70

SILVA, GEORGETTE; LOVE, HAROLD

Univ. of California, Los Angeles, Calif., Institute of Library Research

The identification of text variants by computer. Inf Stor & Retr, 1969, 5:3.89-108.

Description of a working program for collating texts. Procedure identifies text variants ranging from minute differences in punctuation and spelling to additions and deletions of larger portions of text. Procedure brings lineation of all texts to be compared into conformity with that of the base text and prints all variants in the texts beneath. Program accepts running text input from magnetic tape without prior editing. Comparisons on a line-for-line basis and searches for new correspondences when the texts are out of phase extend over an interval of 20 lines each side of the current line. Flowcharts and complete program listings. Originally written in FORTRAN 32 for the CDC 3000 series computers, program designed to make conversion to another machine possible. Both problem of system operation and possible adaptation to other machines discussed from user viewpoint. Suggestions for further development. - *From the journal abstract.*

1244.70

SVARTVIK, JAN

Computational linguistics comes of age. Times Lit Suppl, July 23, 1970, 3,569.821-823.

Discussion of some of the results from a survey on machine translation activities; makes a distinction between computer based linguistics and computer aided linguistics.

1245.70

VARGA, DÉNES

Hungarian Academy of Sciences, Budapest (Hungary), Computing Center

Problems of improving the efficiencies of parsing systems. Comput Linguist, 1969, 8.71-93. Also available in the Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 61. 30 p.

Discussion of number of possible structures as function of sentence length; syntactic ambiguities; tactics (parsing algorithms); analyses. Two basic types of parsers, maximum width and minimum width, are evaluated; new strategy suggested for analyzing CF languages. 19 refs. - *From the author.*

1246.70

WILKS, YORICK

Cambridge Univ., Cambridge (England), Pembroke College

On-line semantic analysis of English texts. MT: Mech Transl & Comput Linguist, 1968, 11:3/4.59-72.

Use of an on-line system to do word-sense ambiguity resolution and content analysis of English paragraphs, using semantic analysis system programmed in Q32 LISP 1.5. 13 refs. (Presented at the Second International Congress of Applied Linguistics, Cambridge, September 1969.) - *From the journal abstract.*

1247.70

WOODS, WILLIAM A.

Harvard Univ., Cambridge, Mass.

Transition network grammars for natural language analysis. Commun ACM (Assoc Comput Mach), 1970, 13:10.591-606.

Use of transition graphs in automatic language analysis; recursive transition networks for context free languages and more powerful augmented networks for languages generated by transformational grammars. Comparison with Matthews, Petrick, and Mitre procedures for transformational recognition, andwith the Thorne and Bobrow and Fraser network representations. 33 refs. (See 577, *L&A* 2.)

See also 1282, 1306, 1324, 1502, 1538.

MECHANICAL TRANSLATION

Machine translation theory and applications.

1248.70

BLOIS, J.; BUYDENS, J.; GOUGENHEIM, G.; HIRSCHBERG, L.; MICHÉA, R.; ROTHENBERG, M.

[Problems of automatic translation] Problèmes de la traduction automatique. Alabama linguistic and philological series 16. University, Ala.: Univ. of Alabama Press, 1968, 136 p. In French.

Fifteen papers on linguistics from point of view of automatic translation and related problems. Mathematical linguistic techniques and models increasingly used in effort to represent the complexities of natural languages. Automatic translation requires replacement of human capacity to make reasoned choices among alternatives by commands which can be rigorously executed. – *From the preface.*

1249.70

BOOTH, A. D., ed.

Univ. of Saskatchewan, Saskatoon (Canada), Engineering Dep.

Machine translation. Amsterdam: North-Holland, 1967, xi, 529 p. 90 f; 180 s.

Collection of 12 articles on current work in MT designed to encourage comparison of philosophical ideas and various approaches. Authors include Andreev, Bar-Hillel, Kasher, Shamir, Booth, Ceccato, Kulagina, Mel'čuk, Levison, Masterman, McDaniel, Day, Price, Szanser, Whelan, Yates, Plath, Reifler, Rhodes, Yngve.

1250.70

KNISBACHER, MARK

An analysis-transfer grammar of Russian nominalizations: A theory of syntactic machine translation. Ph.D. thesis, Brown Univ., 1970.

1251.70

KUZNETSOV, V. I.

Wright-Patterson AFB, Ohio, Foreign Technology Div.

The development of machine (automatic) systems translations from one language to another and their application: Symposium 10-13 October 1967, Budapest. FTD-MT-24-84-70. August 1970, 17 p. Edited machine transl. from the Russian, Nauchno-Tekh Inf, Series 2, 1968, 6.28-30, by K. L. Dion. [NTIS: AD 714 765].

Summary of discussions at the Symposium of CMEA member countries on development and application of automatic systems of translation. The agenda covered the basic lines of research in the field of automatic translation. Symposium showed that the level of Research and Development work in the field of automatic translation in CMEA countries is up to the present world scientific standard. – *From the 'R&D Reports' author abstract.*

1252.70

LIPPMANN, ERHARD O.; PLATH, WARREN J.

IBM Corp., Yorktown Heights, N.Y., Thomas J. Watson Research Center

Time sharing and computer aided translation. Finite String, 1970, 7:8.1-4.

Authors cite immediacy of response and wide range of translation and manuscript creation aids as key potential advantages of time sharing systems over batch processing systems in the area of computer aided translation. Features of an experimental computer aided translation system operating under the time sharing systems TSS/360 and CP67/CMS are described. The authors conclude that while the experiments carried out with the system to date indicate promise in this approach, extensive use and evaluation by professional translators will be required before practical implications can be assessed. Two refs. – *From the authors.*

1253.70

MASTERMAN, MARGARET

Cambridge Language Research Unit, Cambridge (England)

Semantic message detection research for machine translation. Final report 15 December 1962 to 15 December 1969. Contract N62528-3789. July 1970, 43 p. [NTIS: AD 714 024].

Mathematic model of language in which syntactic and semantic markers represented as points on syntactic and semantic factors of a finite product lattice. Interlingual model; theoretical ideas applied to problems of simplified machine translation. Method depends upon algorithm which divides text into phrasings and which has been programmed and used on extended texts. – *From the 'R&D Reports' author abstract.*

1254.70

MEL'ČUK, I. A.

Academy of Sciences of the USSR, Moscow (USSR), Linguistics Institute

[An experiment in Russian-French automatic translation: The Grenoble system] Ob odnom eksperimente AP s russkogo jazyka na francuzskij v ramkax Grenobl'skoj sistemy. Nauchno-Tekh Inf, Series 2, 1969, 12.23-29. In Russian.

MT system (Russian to French) designed by the Univ. of Grenoble briefly sketched, the principal source being final and intermediary computer outputs, as well as some preliminary publications. Four translated sentences discussed in detail with special reference to the main steps of the routine illustrated by the input sentence with word forms split in stem and ending; surface (phrase) structure of the input sentence; results of so-called syntactic interpretation -- dependency tree of the input sentences; deep structure -- the representation of the translated sentence in an interlingua; French

surface structure; output (French) sentence. Components of system described, as well as the grammars used. – *From the journal abstract.*

1255.70

NÜNDEL, STEFAN; KLIMONOW, GERDA; STARKE, INGRID; BRAND, INGEBORG

Deutsche Akademie der Wissenschaft, Berlin (Germany), Arbeitsstelle für mathematische und angewandte Linguistik und automatische Übersetzung

[Automatic language-translation, Russian-German] Automatische Sprachübersetzung, Russisch-Deutsch. Berlin: Akademie-Verlag, 1969, 150 p. In German.

Description of lexico-morphological and syntactic analysis and some outstanding linguistic problems. Satisfactory, practical solution was not possible at the present stage of development.

1256.70

OOMEN, URSULA

Georgetown Univ., Washington, D.C., School of Languages and Linguistics

[The translating process and its automatization] Der Übersetzungsprozess und seine Automatisierung. Folia Linguist, 1969, 3:1/2.153-166. In German.

Rejects Warren Weaver's maxim that code and language are the same, and attempts to show the types of complex instructions a machine would need to translate meaningfully. Discussion is based on the translating process in the associating, creating, and analyzing speaker.

1257.70

PEVZNER, B. R.

[Automatic translation of English texts into the 'Empty-Nonempty-2' system] Ob avtomatičeskom perevode anglijskix tekstov na jazyk sistemy 'Pusto-Nepusto-2'. Nauchno-Tekh Inf, Series 2, 1969, 11.12-17. In Russian with summary in English.

Methods used in designing automation system for retrieval of English electrical engineering abstracts described, presuming that a well elaborated 'Empty-Nonempty-2'-type system is ready for Russian text. Task of building English system reduced to compilation of an English-to-descriptor dictionary. Resulting 'Empty-Nonempty-2' system will comprise two indexing subsystems -- for Russian and for English -- one descriptor dictionary and one common logic. – *From the journal abstract.*

1258.70

PRICE, JAMES D.

The development of a theoretical basis for machine aids for translation from Hebrew to English. Ph.D. thesis, Dropsie College, 1969, 530 p.

Chapters include theory of translation, a context sensitive complex constituent phrase structure grammar of modern Hebrew orthography, a context sensitive complex constituent phrase structure grammar of modern Hebrew syntax. Three appendices include algorithm for generating Hebrew words, algorithm for analyzing them, and a simplified CS grammar of Hebrew.

1259.70

VAUQUOIS, BERNARD

Centre d'Etudes pour la Traduction Automatique, Grenoble (France)

[Deep structures and automatic translation. The C.E.T.A. system] Structures profondes et traduction automatique. Le système du C.E.T.A. Rev Roum Linguist, 1968, 13:2.105-130. In French.

Description of models for morphological and syntactic analysis, syntactic generation

and morphological synthesis for French-Russian, French-German, and French-Japanese programs. Three refs.

1260.70
WOODHOUSE, DAVID
La Trobe Univ., Bundoora, Victoria (Australia)
A note on the translation of Swahili into English. MT: Mech Transl & Comput Linguist, 1968, 11:3/4.75-77.

Some features of morphology of Swahili discussed from the point of view of mechanizing a dictionary and preliminary program described. – *From the journal abstract.*

See also 1292.

QUANTITATIVE LINGUISTICS

All aspects of statistical linguistics.

1261.70
AFENDRAS, EVANGELOS ANGELOS
Univ. of Hawaii, Honolulu, Hawaii, Center for Technical and Cultural Interchange between East and West, Institute of Advanced Projects
Can one measure a Sprachbund? A calculus of phonemic distribution for language contact. Folia Linguist, 1970, 4:1/2.93-103.

Method presented for quantifying the degree of phonological convergence among languages in a Sprachbund (a restricted area in which several languages are in contact) applied to the Balkans but seen as valid for similar areas such as India, the Caucasus, Colombia, Nigeria, or Canada. 39 refs. (For original version, see 214, *L&A* 1.)

1262.70
AFENDRAS, EVANGELOS ANGELOS
International Center for Research on Bilingualism, Quebec (Canada)
Quantitative distinctive feature typologies and a demonstration of areal convergence. Rev ITL (Inst Appl Linguist Louv), 1970, 9.49-81. In English with summaries in English and French.

Discusses several earlier attempts to produce distinctive-feature based quantitative language typologies and then develops a method for quantifying distinctive features in a given sound pattern. When applied to a number of Balkan vocalic patterns, this produces support for the hypothesis of areal convergence. Various aspects of typology, quantification, and comparison. – *From the author.*

1263.70
BERGSVEINSSON, SVEINN
Humboldt-Univ., Berlin (Germany), Germanistisches Institut
[The position of the adverb in Icelandic] Die Stellung des Adverbs im Isländischen. Folia Linguist, 1969, 3:3/4.307-332. In German.

Formal description of position of different types of adverbs in different types of sentences yielding nine rules and one limitation. Negation, conjunctional adverbs, and modal adverbs treated statistically.

1264.70

BILOKUR, BORYS

Univ. of Connecticut, Storrs, Conn.

Statistical observations on Tjutčev's lexicon. Slav & East Eur J, 1970, 14:3.302-316.

Statistical analysis of nouns, verbs, adjectives, and adverbs in Tjutčev's vocabulary revealing partiality to certain parts of speech and individual words and word groups. Five tables, 32 refs. – *From the author.*

1265.70

HERDAN, GUSTAV

The jig-saw puzzle of Saussurian and quantitative linguistics. Lingua Stile, 1969, 4:1.69-76.

Discussion of quantitative hypothesis which views language as combinatory technique, notably a code to express thought. Author proposes combining Saussurian and quantitative 'pieces' to form a whole. Nine refs. – *From the 'Bull Signal 524 (Sci Lang)' abstract.*

1266.70

HOUCK, CHARLES L.

A statistical and computerized methodology for analyzing dialect materials. Ph.D. thesis, Univ. of Iowa, 1969.

1267.70

IRION, A. L.

Univ. of Missouri, St. Louis, Mo.

Word frequency and word derivation in spoken English. Psychol Rep, 1969, 24:3.825-826.

Analysis of lexical reduction in Howes' spoken English to determine derivational sources of words comprising spoken English. Two refs. – *Transl. from the 'Bull Signal 524 (Sci Lang)' abstract.*

1268.70

MIYAJIMA, TATSUO

National Language Research Institute, Tokyo (Japan)

[A statistical study of parts of speech in Japanese classics] Koten no hinshi tôkei. Math Linguist, 1970, 53.1-8. In Japanese; summary in English.

Statistical data on vocabulary of 12 representative works of Japanese classical literature with frequency of parts of speech for each work. Discussion of validity and reliability of data of this type for stylistic studies in general.

1269.70

MIZUTANI, SIZUO

Tokyo Women's Christian College, Tokyo (Japan)

[Materials for a glossary of mathematical linguistics (1)]. Math Linguist, 1969, 51.23-35. In Japanese.

Usefulness of computation of algebraic and statistical linguistics glossary. Difficulties of compilation. First steps -- arrangement of data, initial selection of some 30 terms such as string, substring, (basic) symbol, vocabulary, concatenation, reflection, language, grammar (in general), syntax, well-formedness, etc., taken from 20 books and papers. 20 refs. – *From the journal abstract.*

1270.70

MIZUTANI, SIZUO

Tokyo Women's Christian College, Tokyo (Japan) [Materials for a glossary of mathematical linguistics (2): On 'phrase-structure grammar']. Math Linguist, 1970, 54.26-42. In Japanese.

Definitions of phrase structure grammar and its characteristics. 32 refs. – *From the author abstract.*

1271.70

NOMURA, MASAAKI

National Language Research Institute, Tokyo (Japan)

[A measure based on frequencies of Chinese characters classified by their Japanese reading types 'on' and 'kun']. Math Linguist, 1970, 54.15-26. In Japanese.

Analysis of tendency in writing system of newspapers and magazines, using an 'on-kun-coefficient' of a Chinese character, which is defined as r = (a-b) / (a+ b), where a and b respectively denote frequencies of 'on' and 'kun' in the text. – *From the author abstract.*

1272.70

PRITCHARD, ALAN

North-Western Polytechnic, London (England), School of Librarianship

Statistical bibliography: An interim bibliography. May 1969, 69 p. [NTIS: PB 184 244].

This report contains a 700 item bibliography of literature on statistical bibliography, arranged in author order. The areas covered are citation studies, abstract journal studies, direct literature studies with additional relevant material on user surveys, the history and sociology of science and citation structures. The period covered is from 1881-1969. – *From the 'RIE' author abstract.*

1273.70

SANKOFF, DAVID

McGill Univ., Montreal (Canada)

Simulation of word-meaning stochastic processes. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 49. 66 p.

Justification of Swadesh's lexicostatistic theory (for quantitative comparisons of related languages based on a well-defined model of language change) by stressing the stochastic processes involved rather than the limitations caused by oversimplification. 46 refs. (See 904, *L&A* 3.)

1274.70

SAVARD, JEAN-GUY; RICHARDS, JACK C.

International Center for Research on Bilingualism, Quebec (Canada)

Measuring the utility of a basic French vocabulary. Te Reo, 1969, 12.35-40.

Criteria for word utility used in this study were frequency, range, availability, and coverage. Computer printout of the first 153 words of the utility list for basic French appended. 15 refs.

1275.70

SILIAKUS, H.; MORRIS, K.

Univ. of Adelaide, Adelaide (Australia)

Some reflections on the lack of accuracy of word frequency lists. Rev ITL (Inst Appl Linguist Louv), 1970, 9.11-18.

Problems encountered in using frequency of occurrence in texts as a guide to usefulness of words. Based on experience obtained in the computer aided compilation of lists of specialized German words for students in the fields of musicology, literary criticism, geography, and history. Four refs.

1276.70

STAMMERJOHANN, HARRO

[Tense and negation] Tempus und Negation. Folia Linguist, 1969, 3:3/4.242-244. In German.

Statistical discussion of use of imperfect and remote past in modern Italian literature revealing that verbs in the imperfect are negated more often than those in the remote past.

1277.70

TABBERT, RUSSELL DEAN

The frequency of sentence complementation in two corpora of spoken American English. Ph.D. thesis, Univ. of Iowa, 1969.

1278.70

WEBSTER, R. J.

Computing Devices of Canada, Ottawa (Canada), Analysis and Programming

On certain formal properties of Zipf's law. Pens Linguag Oper, 1970, 1:3.297-308.

Zipf's law, as modified by Booth (1967), fits, at least as well as does the Waring-Herdan formula, empirical data from Muller (1965), Kučera and Francis (1967), and Booth. Rejection of the older model is therefore partisan. 14 refs.

1279.70

WILHOIT, G. CLEVELAND

Indiana Univ., Bloomington, Ind., Dep. of Journalism

A case study in vocabulary balance in news prose. J Commun, 1969, 19:1.49-53.

A computerized word frequency study based on a sample of 104,737 words from Associated Press news dispatches was used to test Zipf's law of vocabulary balance, an equation predicting statistical regularity between word frequency (the number of occurrences of a word in a single text) and word ranking of most to least frequently occurring word. Suggestion that word frequency, f, times word ranking, r, was approximate constant, C; C multiplied by 10 predicted total number of words in sample under analysis, for all types of written English. Directions for further research. Seven refs. – *From the author.*

See also 1601, 1604.

COMPUTER SCIENCE

Computer systems relevant to linguistic data processing; linguistic aspects of computer science.

1280.70
AMOSS, JOHN O.; BREEDING, KENNETH J.
Ohio State Univ., Columbus, Ohio, Research Foundation
A syntactical analysis of the pattern description language PADEL. 2768-2 AFOSR-70-2359TR. Grant AF-AFOSR-1710-69. July 1970, 34 p. [NTIS: AD 711 406].

PADEL -- a translational grammar in that picture elements correspond in a one-to-one way with the language vocabulary. Picture elements of interest described; grammar formally defined; correspondence between picture elements and elements of the grammar; grammar analyzed as element of set of phrase structured grammars. Derivation of regular expression describing all possible strings in the language. (See also 1287 below.) - *From the 'R&D Reports' author abstract.*

1281.70
BAIRD, JACK R.
Univ. of Colorado, Boulder, Colo., Dep. of Electrical Engineering
An optical data link for remote computer terminals. Datamation, 1970, 16:1.125-126.

Description of hardware of low cost, two way optical data link used at Univ. of Colorado at Boulder.

1282.70
BALZER, R. M.; FARBER, D. J.
Rand Corp., Santa Monica, Calif.
APAREL -- A parse-request language. RM-5611-1-ARPA. September 1969, 38 p.

Description of a flexible high level parsing language extension to PL/1 used in a translator for Dataless Programming (RM-5290), a powerful syntax and function macro system, and an on-line command parser. Initial implementation on the IBM 360 comprises a preprocessor that converts APAREL programs into legal PL/1 programs and the run time parser written in assembly language. APAREL provides pattern matching capability normally found only in special purpose languages such as SNOBOL 4 and TMG. - *From the publisher's abstract.*

1283.70
BARTON, M. E.
Bell Telephone Labs., Naperville, Ill.
The macro assembler, SWAP. A general purpose interpretive processor. In: 1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 1-8.

Description of SWitching Assembly Program (SWAP), multipurpose assembler useful for producing object code and a wide variety of other problems such as interpretively processing a language foreign to the assembler. Appendix. Three refs. - *From the author.*

1284.70
BJØRNER, DINES
IBM Research, San Jose, Calif.
Finite state automation. Definition of data communication line control procedures. In:

1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 477-491.

Notions of finite state automata, state transition graphs and tables, and set of regular languages generated by automata applied in definition of data communication line control procedures. Figs. 12 refs. - *From the author.*

1285.70

BOUKNIGHT, W. JACK

Univ. of Illinois, Urbana, Ill., Coordinated Science Lab.

CSLX (X= 6, 7): A programmer's manual to the use and understanding of a low-level linked list structure language. November 1969, 122 p. [NTIS: AD 699 928].

Manual for list processing language operating on the control data 1604 computer. Description of all operation codes, statements and procedures. Brief discussion of linked list storage schemes. - *From the 'RIE' author abstract.*

1286.70

BREDT, THOMAS H.

Stanford Univ., Stanford, Calif., Stanford Electronics Labs.

Analysis and synthesis of concurrent sequential programs. SU-SEL-70-024, TR6. Grant NGR-05-020-377, Contract N00014-67-A-0112-0044. May 1970, 54 p. [NTIS: AD 711 334; Stanford Univ.: STAN-CS-70-170].

Analysis and synthesis procedures for a class of sequential programs which aid in the design of programs for parallel computer systems. - *From the 'R&D Reports' author abstract.*

1287.70

BREEDING, KENNETH J.

Ohio State Univ., Columbus, Ohio, Electroscience Lab.

PADEL -- A pattern description language. ESL-2768-1 AFOSR-70-2586TR. Grant AF-AFOSR-1710-69. June 1970, 44 p. [NTIS: AD 714 594].

Describes line drawings in symbol strings. The language is a transformational grammar in which elements of the line drawing, or picture, correspond to elements in the description. The correspondence is reversible so that given a grammatically correct string in PADEL a line drawing may be constructed. Using the language, several topological transformations are described in which the picture is modified by simple manipulation of the strings. PADEL shown to be applicable to the recognition of fixed oriented line drawings. Thus, the language is shown to be very useful in recognizing hand printed alphanumeric characters. Examples of this recognition process are given. (See also 1280 above.) - *From the 'R&D Reports' author abstract.*

1288.70

BUREAU OF THE BUDGET, Washington, D.C.

Automatic data processing glossary. 65 p. [ERIC: ED 040 737 MF$0.50; also available from *Datamation* for $1.00].

Datamation offers glossary compiled by U.S. Bureau of the Budget. Definitions given under key word entries. Modifiers listed in normally used sequence (record, fixed length) where two or more terms have same meaning, only preferred term is defined, all synonymous terms given at end of definition. - *From the 'RIE' abstract.*

1289.70

BURKS, ARTHUR W.

Univ. of Michigan, Ann Arbor, Mich., Dep. of Computer and Communication Sciences

Languages and automata. Final report, 1 October 1966 - 31 October 1970. AROD-6499:23-M. Contract DA-31-124-ARO(D)-483. November 1970, 5 p. [NTIS: AD 714 688].

Summary of work on program to better understand computing automata, their capabilities and limitations, and to express these capabilities and limitations in the form of precise mathematical results. – *From the 'R&D Reports' author abstract.*

1290.70

BUXTON, J. N., ed.

C-E-I-R Ltd., London (England)

Simulation programming languages. Proceedings of the IFIP working conference on simulation programming languages, Oslo, 1967. Amsterdam: North-Holland, 1968, viii, 498 p. 65 f. (152 s.; $18.00).

Collection of technical papers (with abstracts) and edited discussions for each of eight sessions of conference of 50 experts. Topics include design of highly unspecialized simulation programming systems, use of unspecialized languages, system designs, and use in practical contexts. 168 refs.

1291.70

CARTER, LAUNOR F.

System Development Corp., Santa Monica, Calif.

Educational technology: Computer-related and people-related. Sp-3412. August 1969, 25 p. [ERIC: ED 038 993 HC$1.35 MF$0.25].

Consideration of two aspects of educational technology: development dependent on computer equipment and development of CAI language Programmed Language for Interactive Teaching (PLANIT); development unrelated to equipment; Attempts to develop tutorial community unrelated to hardware or equipment but rather to techniques of instruction, student-teacher relationships, and community interaction. (Adapted from addresses to Div. of Military Psychology, American Psychological Association, Washington, D.C., September 2, 1969 and at Miller Hall dedication.) – *From the 'RIE' abstract.*

1292.70

COLMERAUER, ALAIN

Univ. de Montréal, Montréal (Canada)

[Q-Systems: A formalized meta-grammar for analyzing and synthesizing sentences by computer] Les systèmes-q, ou un formalisme pour analyser et synthétiser des phrases sur ordinateur. Publications internes 43. Sponsored by National Research Council of Canada. September 1970, 44 p. In French; summaries in French and English.

A q-system is a set of rules which allows certain transformations to be carried out on oriented graphs. An expression with parentheses appears on each arrow of such a graph. The transformation may correspond to an analysis, a synthesis of a sentence, or to a similar formal manipulation. It is possible to use the same q-system to describe both a process and the inverse of this process, as for example the analysis and the synthesis of the same sentence. – *From the author.*

1293.70

DOLBY, JAMES; RESNIKOFF, H. L.; HOUCHIN, W. E.; STARK, ROGER

R and D Consultants Co., Los Altos, Calif.

Non-numeric programming language studies: ALTEXT II. AFOSR-70-2315TR. Contract F44620-69-C-0094. June 1970, 159 p. [NTIS: AD 711 387].

Computer language ALTEXT II implemented as a set of assembly code macros that permit simple programming of most elementary problems in linguistic data processing. Allows development of special operators by adding new macros as needed. Elementary user's guide and reference manual for systems programmers appended. – *From the 'R&D Reports' author abstract.*

1294.70

EARLEY, JAY; STURGIS, HOWARD

Univ. of California, Berkeley, Calif., Dep. of Computer Science

A formalism for translator interactions. Commun ACM (Assoc Comput Mach), 1970, 13:10.607-617.

Presentation of formalism for describing actions of processors for programming languages and their interactions in complex systems, e.g. compiler-compilers or extendible languages. 'Translator' used in sense of programs which translate one language to another. 10 refs. – *From the author abstract.*

1295.70

FLECK, ARTHUR C.

Univ. of Iowa, Iowa City, Iowa, Dep. of Mathematics

Towards a theory of data structures. Report on the theory and applications of automation theory. THEMIS-UI-TR-30. Contract N00014-68-A-0500. August 1970, 29 p. [NTIS: AD 713 953].

Definition of a formal idealization of the data structure used in many list processing languages shows that under a natural interpretation these data structures define exactly the context free languages of automata theory. Generalization in the direction of the patterns of SNOBOL, modeling the ability of SNOBOL patterns to represent non-context free languages. Shows that under certain restrictions only context sensitive languages are represented but that in general non-context sensitive languages can occur. – *From the 'R&D Reports' author abstract.*

1296.70

FOX, JEROME

Polytechnic Institute of Brooklyn, Farmingdale, N.Y., Dep. of Electrophysics

Computer processing in communications, New York, N.Y., on 8-10 April, 1969. AFOSR-70-2175TR. Contact F44620-69-C-0047, AF49(638)-1402. Brooklyn: Polytechnic Press, 1970, 850 p. $24.00.

Contains the proceedings of the 19th symposium on electronic sciences sponsored by the Microwave Research Institute of the Polytechnic Institute of Brooklyn. Fifty-three papers dealing with numerous aspects of computer processing techniques in data transmission including the mathematics, physics, and engineering of filter, analyzer, pattern recognition, information and computer sciences. Both foreign and domestic invited and selected papers are included. – *From the 'R&D Reports' author abstract.*

1297.70

FRIEDMAN, DANIEL P; et al.

Univ. of Houston, Houston, Tex., Dep. of Computer Science

GRASPE 1.5: A graph processor and its application. August 1969, 143 p. [NTIS: AD 696 673].

Investigation of set of primitives to allow graph processing on list processing system. Aims to provide a method of applying intuitive graph solution techniques to graph oriented computer problems. Applications from several disciplines. – *From the 'RIE' author abstract.*

1298.70

GRAHAM, WILLIAM R.

Rand Corp, Santa Monica, Calif.

The impact of future developments in computer technology. P-4401: Presented at the joint Air Force and Lockheed Aircraft conference on computer-oriented analysis of shell structures on 13 August 1970. June 1970, 17 p. [NTIS: AD 710 262].

An attempt to move away from analyzing computer capability only in terms of raw hardware speeds. Tries to give a rounded picture of the disadvantages as well as the advantages of some radically new machine designs. The point of view is that of a person interested in solving very large and complex problems. – *From the 'R&D Reports' author abstract.*

1299.70

HOFMANN, EGON; SCHREITER, DIETER

[Electronic data processing: A programmed introduction] Die elektronische Datenverarbeitung: Eine programmierte Einführung. Berlin: Verlag Die Wirtschaft, 1969, 467 p. In German.

Construction and working method of an electronic computer and program flowchart.

1300.70

JENKS, RICHARD D.

IBM Corp., Yorktown Heights, N.Y., Thomas J. Watson Research Center

Excerpts from META/LISP: An interactive translator writing system. SIGSAM Bull, 1970, 16.10-18.

META/LISP is a general purpose translator writing system for IBM System/360 currently running on TSS, CP/CMS, and OS/360. System input is a source program describing 1) the syntax of some input data to be translated and 2) algorithms that use a pushdown stack to accomplish a desired translation; system output is a compiled program for translating that input data. When the input data are statements of a higher level language to be translated into assembly language, META/LISP serves as a compiler-compiler. Because of its top-down syntax directed approach, META/LISP is a convenient system for developing compilers for experimental languages. Five refs. – *From the author abstract.*

1301.70

KAMYNIN, S. S.; LJUBIMSKIJ, E. Z.

Algorithmic machine-oriented language: ALMO. August 1969, 14 p. (Edited transl. of the Russian, 'Algoritmy i algoritmičeskie jazyki', 1967, 1.3-14.) [NTIS: AS 698 528].

Description of ALMO programming language.

1302.70

KERNER, IMMO O.; ZIELKE, GERHARD

Rechenzentrum der Universität Rostock, Rostock (Germany)

[Introduction to the algorithmic language ALGOL] Einführung in die algorithmische Sprache ALGOL. 3rd rev. ed. Munich-Pullach: Verlag Dokumentation, 1969, 260 p. DM42. In German.

Introduction to ALGOL 60 in the shape of a programming course. Suited for beginners

and advanced students. Programming examples based on ALGOL ZRA1 compiler. Syntax of ALGOL 60 on separate diagram.

1303.70

KILGOUR, FREDERICK G.

Ohio College Library Center, Columbus, Ohio

A regional network -- Ohio College Library Center. Datamation, 1970, 16:2.87-89.

Development of central computer utility to supply computer power and bibliographic and indexing information to 54 member libraries; the huge file problem, system appraisal.

1304.70

KNUTH, DONALD E.

Stanford Univ., Stanford, Calif., Dep. of Computer Science, Stanford Artificial Intelligence Project

Examples of formal semantics. CS-169, AI Memo-126. SD-183. July 1970, 36 p. [NTIS: AD 711 329].

Technique based on relations between 'attributes' associated with nonterminal symbols in a context free grammar. Definition of basic properties of lambda expressions, involving substitution and renaming of bound variables, and of simple programming language. Emphasis on declarative forms of definition. - *From the 'R&D Reports' author abstract.*

1305.70

KOUNTZ, JOHN C.; NORTON, ROBERT E.

Orange County Public Library, Calif.

BIBLIOS -- A modular system for library automation. Datamation, 1970, 16:2.79-83.

Description of BIBLIOS (Book Inventory Building and Library Information Oriented System) used in the Orange County Public Library System. Emphasizing MARC (MAchine Readable Cataloging) subsystem, inventory, special reports and projected branch subsystems.

1306.70

KRALLMANN, D.; GAMP, R.; KRUMNACK, T.; NEUHAUS, H. E.

Univ. of Bonn, Bonn (Germany), Institut für Kommunikationsforschung und Phonetik

[ABPILD - Program library for linguistic data processing] ABPILD - Programmierbibliothek zur linguistischen Datenverarbeitung. IPK - Forschungsbericht 69-8, 69-9. 1969, 296 p. In German.

1307.70

MANNA, ZOHAR; WALDINGER, RICHARD J.

Stanford Univ., Stanford, Calif., Dep. of Computer Science, Stanford Artificial Intelligence Project

Towards automatic program synthesis. CS-174, AI-Memo-127. Contracts F19628-70-C-0246, NAS12-2221, in part by SD-183. July 1970, 56 p. [NTIS: AD 711 395].

Elementary outline of the theorem-proving approach to automatic program synthesis illustrated by the automatic construction of both recursive and iterative programs operating on numbers, lists, and trees. Relation between version of inductive rule used and form of program constructed explored in detail. - *From the 'R&D Reports' author abstract.*

1308.70
MAURER, H.
[Theoretical foundations of programming languages: Theory of their syntax] Theoretische Grundlagen der Programmiersprachen: Theorie der Syntax. Mannheim/Vienna: Kulisch, 1969, 239 p. In German.

Resume of the principal publications dealing with syntax of programming languages.

1309.70
MILGRAM, DAVID L.; ROSENFELD, AZRIEL
Univ. of Maryland, College Park, Md., Computer Science Center
A note on grammars with coordinates. TR-70-140. Contract Nonr-5144(00). September 1970, 14 p. [NTIS: AD 713 695].

Emphasis on Anderson grammars. Anderson has defined the notion of a 'graphical rewriting grammar', in which each production has an associated set of functions that compute coordinates for the symbols in the production's right member in terms of given coordinates of the symbols in its left member. - *From the 'R&D Reports' author abstract.*

1310.70
MOORE, C. G.; MANN, R. P.
Cyphernetics Corp., Ann Arbor, Mich.
CypherText: An extensible composing and typesetting language. In: 1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 555-561.

Description of CypherText, an extensible language designed for text formatting and typesetting in time sharing environment. Appendices, tables, six refs. - *From the author.*

1311.70
NOGUCHI, HIROSHI
An introduction to mathematical theory of languages. Tokyo: Diamondsha, 1970, 232 p. Y1.300. In Japanese.

Textbook for senior undergraduate or graduate students majoring in computer science including phrase structure languages and related automata.

1312.70
PAUL, J. E., JR.; GOETZE, A. J.; O'NEAL, J. B., JR.
North Carolina State Univ., Raleigh, N.C., Dep. of Engineering
A modified figure of merit for feature selection in pattern recognition. IEEE Trans Inf Theory, 1970, 16:4.504-507.

Modification of the conventional mutual-information figure of merit for feature selection in pattern recognition. Weighting function is combined with the mutual-information function that results in greater recognition accuracy for a linear classifier. - *From the 'R&D Reports' author abstract.*

1313.70
PELEDOV, G. V.
[MEI-2 syntactical translator]. FTD-HT-23-402-70. August 1970, 10 p. (Transl. from the Russian, *Seminar avtomatizatsii programmirovanija.* Doklady (USSR), 1968, 1.80-85, by L. Thompson.) [NTIS: AD 713 771].

Brief description of the MEI-2 syntactical translator, which was designed at the Moscow Power Engineering Institute for operation with the Minsk-22 computer. The input language is a shortened version of ALGAMS, a derivative of ALGOL 60.

Translation is obtained from a syntactical compiler which comprises analytic and synthetic (semantic rule governed) functions. Continuous debugging routine included. – *From the 'R&D Reports' author abstract.*

1314.70

REMY, ELDON H.

Eastman Kodak Co., Rochester, N.Y., Kodak Park Div.

Learning to use PL/1. Datamation, 1970, 16:7.47-51.

General discussion of methods for a practical programming course; emphasis on building block components found in programs of the application area as language independent topics. Based on teaching experience at Kodak.

1315.70

ROBERTS, ROGER

Univ. of Calif., Berkeley, Calif.

HELP -- A question answering system. In: 1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 547-554.

Discussion of HELP, system designed to react only to keywords: structure, answer generation, text storage, compacting data. QAS system enables user to generate a HELP program. Seven figs., one ref. – *From the author.*

1316.70

RUSCH, RICHARD B.

Computers: Their history and how they work. New York: Simon and Schuster, 1969, 126 p. $4.50.

Discussion of role of computer, how it came into being, and what physical equipment is included in system, in attempt to aid layman to understand relationship to new technology: machine languages and codes, binary systems, bits and cores, punch cards, magnetic tape, disks and thin film memories, etc. Description of computer programming process and other procedures. Glossary and subject index appended. – *From the 'RIE' abstract.*

1317.70

SANDEWALL, ERIK

Uppsala Univ., Uppsala (Sweden), Dep. of Computer Sciences

A proposed solution to the FUNARG problem. 29. Contract 010-218:1, by Swedish Research Institute of National Defense (FOA P) (partial support). November 1970, 12 p.

Response to Joel Moses' 'The function of FUNCTION in LISP, or...' Examples of usefulness of FUNARG feature of LISP 1.5. Proposes to let a FUNARG expression create indirect addressing type bindings on the push-list for variables. Four refs. – *From the author abstract.*

1318.70

SCHUMAN, STEPHEN A.; JORRAND, PHILIPPE

Univ. de Grenoble, Grenoble (France)

Definition mechanisms in extensible programming languages. In: 1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 9-20.

Discussion of base language, semantic and syntactic extension mechanisms, and extended language. Syntactic extensibility is most flexible; however, properties of

particular extended language dictate efficiency of processor, and not converse. 14 refs. – *From the author.*

1319.70

STEEL, T. B., JR., ed.

Formal language description languages for computer programming. Proceedings of the IFIP working conference on formal language description languages. Amsterdam: North-Holland, 1966, 330 p. $11.20.

Twenty technical papers presented to conference of 51 experts on the semantics of computer programming languages, the anomaly of logic as it affects the description of existing programming languages. 345 refs.

1320.70

STEVENS, MARY ELIZABETH

National Bureau of Standards, Washington, D.C., Center for Computer Sciences and Technology

Overall system design considerations -- A selective literature review. Research and development in the computer and information sciences 3. NBS-Monogr-113-Vol-3. June 1970, 149 p. [ERIC: ED 040 727 MF$0.75; USGPO: C13.44:113/Vol.3 $1.25].

Requirements and resources analysis, problems of system networking, input/output and remote terminal design, character sets, programming problems and languages, processor design considerations, advanced hardware developments, debugging and on-line diagnosis or instrumentation and problems of simulation. Supplemental notes. 570 refs. – *From the 'RIE' author abstract.*

1321.70

STORM, E. F.; VAUGHAN, R. H.

Syracuse Univ., Syracuse, N.Y.

VULCAN -- A string handling language with dynamic storage control. In: 1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 21-32.

Description of symbol manipulation facility providing capabilities for information management (question-answering and fact retrieval systems) including sophisticated natural language processing. Desirable characteristics of capabilities include conditional expressions, storage maintenance, suppression of bookkeeping detail, numeric capabilities, input/output, and interpretive execution. 10 refs. – *From the author.*

1322.70

VESELOV, V. M.; KOPROV, V. M.

Physics and Power Engineering Institute, Obninsk (USSR)

Algorithms and algorithmic languages. May 1969, 32 p. [NTIS: AD 695 921].

Introduction to problems connected with description of algorithms and algorithmic languages, particularly syntaxes and semantics of algorithmic languages. Relation between algorithm as a computational process, and algorithmic language, which is a means of coding the meaning of the process, problems of description of algorithmic language and its translation into other languages (machine language, natural language, metalanguage) and methods for defining syntactic concepts; formulae. – *From the 'RIE' author abstract.*

1323.70

VIERLING, JACQUELINE S.; SHIVARAM, M.

Honeywell Educational Resource Center, Minneapolis, Minn.

On-line computer managed instruction -- The first step. In: 1970 fall joint computer

conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 231-239.

Description of Computer Managed Instruction (CMI) features: diagnosis and testing, analysis, record keeping, prescription. Tables, figs, sample outputs. - *From the author.*

1324.70

WATANABE, TAN

[A semantic meta-language] Imironteki-meta-gengo no katachi o shita keisanki-gengo. Jôhô Shori, 1970, 11:8.439-448. In Japanese; summary in English.

Discussion of programming language in the form of a semantic metalanguage capable of accepting new types of operations and operands. To program a problem in this language, describe the rough algorithm introducing new phrases. Then explain the syntax and semantics of the introduced new phrases by using or introducing other phrases; process repeated until all are reduced to known phrases. The language is based on mappings from symbol to symbol or from symbol to set of symbols.

1325.70

WEDEKIND, HARTMUT

[Data organization] Datenorganisation. Berlin: Walter de Gruyter, 1970, 267 p. In German.

Systematic specification of the principles and methods of data organization.

1326.70

WRIGHT-PATTERSON AFB, Ohio, Foreign Technology Div.

Description of the ALGAMS language. August 1969, 13 p. (Edited transl. of the Russian, Algoritmy i algorithmiceskie jazyki, 1967, 3.3-13, 50.) [NTIS: AD 699 634].

Discussion of ALGAMS, an algorithmic language for medium type machines, language is subset of ALGOL 60. Paper discusses syntax and semantics of ALGAMS. - *From the 'RIE' abstract.*

1327.70

YERKE, THEODOR B.

USDA Forest Service, Berkeley, Calif., Pacific Southwest Forest and Range Experiment Station

Computer support of the researcher's own documentation. Datamation, 1970, 16:2.75-77.

Background on need for and development of FAMULUS, a system for personal documentation used at the Forest Experiment Station in Berkeley.

See also 1247, 1344, 1558, 1646, 1664.

INFORMATION SCIENCE

Linguistics in documentation, information science and retrieval; information systems for linguistics.

1328.70

ALTMANN, BERTHOLD

Harry Diamond Labs., Washington, D.C.

The HDL (Harry Diamond Labs.) automated information system. HDL-TR-1523. August 1970, 118 p. [NTIS: AD 711 919].

Purpose and development of the ABC system; computer programs that were written and tested for the automatic construction and standardization of syntactical descriptors. Magnetic tapes distributed by national information centers are processed to provide best possible bibliographic services and outline of test to estimate the inherent limitations of a proposed system. – *From the 'R&D Reports' author abstract.*

1329.70

ARMITAGE, J. E.; LYNCH, M. F.; PETRIE, J. H.

Univ. of Sheffield, Sheffield (England), Postgraduate School of Librarianship and Information Science

Experimental use of a program for computer-aided subject-index production. Inf Storage & Retr, 1970, 6:1.79-87.

Stages in the development of a program for the production of articulated subject indexes described. Titles from 1700 documents included in SMRE bibliography (3rd ed.) edited to provide input to program, and output recorded on a microfilm/hard copy recorded in upper case alone. Further developments and criteria for assessing the suitability of the technique relative to other 'index-production techniques' discussed. Five refs. – *From the author abstract.*

1330.70

AUGUSTSON, J. GARY; MINKER, JACK

Univ. of Maryland, College Park, Md., Computer Science Center

An analysis of some graph theoretical cluster techniques. J ACM (Assoc Comput Mach), 1970, 17:4.571-588.

Term-term similarity matrix is constructed on an indexed corpus of 2267 documents. For clusters defined on sets of terms which are more interrelated than not (Tanimoto measure $> 1/2$), it makes no difference which of several proposed definitions of a cluster are used: all result in substantially same groupings. However, the Bierstone algorithm for determining clusters as maximally complete subgraphs offers a significant savings in computation time over other algorithms. 43 refs.

1331.70

BELY, N.; SIOT-DECAUVELLE, N.; BORILLO, A.; VIRBEL, J.

Centre National de la Recherche Scientifique, Paris (France)

[Procedures of semantic analysis. Applications in scientific documentation] Procedures d'analyse semantique. Appliquees a la documentation scientifique. Documentation et information. Paris: Gauthier-Villars, 1970, 264 p. 65 F. In French.

Description of a general method for indexing scientific documents and results of a pilot study testing method on corpus of French abstracts on psychophysiology using a CDC3600. Lexical and syntactic analyses described, main lines of program and evaluation of efficiency and cost. – *Transl. from the publisher preprint.*

1332.70

BLACK, DONALD V.

System Development Corp., Santa Monica, Calif.

Library information system time-sharing (LISTS) project. Final report. TM-4547. May 1970, 216 p. [ERIC: ED 039 009 HC$10.90 MF$1.00].

Discussion of LISTS experiment based on three innovations in data processing technology: advent of computer time sharing on third generation machines, development of general purpose file management software, introduction of large library oriented data bases. Appendices: on line circulation simulation, users manual, users manual for circulation control subsystem at Fullerton Junior College Library, on line circulation system, operating instructions evaluation questionnaire. Automation is an improvement over manual processing in some parts of acquisitions process: for bibliographic searching of MAchine Readable Cataloging (MARC) records, circulation control, and production of bookform catalogs. – *From the 'RIE' author abstract.*

1333.70

BLISS, K. O.; CHIEN, R. T.; STAHL, F. A.

Univ. of Illinois, Urbana, Ill., Coordinated Science Lab.

A data structure for cognitive information retrieval. R-493,UILU-ENG-70-238. Grant OEC 1-7-071213-4557, Contract DAAB07-67-C-0199. October 1970, 22 p. [NTIS: AD 713 432].

Data structure developed in connection with a natural language question-answering system allowing much expressiveness and suitable for extensive logical deduction. Formal description of the new high order structure which overcomes low order inadequacies. Properties that make this more suitable and attractive for machine processing of natural language information. – *From the 'R&D Reports' author abstract.*

1334.70

BORKO, HAROLD

Univ. of California, Los Angeles, Calif., School of Library Service

Experiments in book indexing by computer. Inf Storage & Retr, 1970, 6:1.5-16.

Attempts to establish, criteria for specifying and selecting useful indexing terms and excluding useless terms, using a computer. Based on the principle of excluding useless terms, fully automatic indexing not achieved. Single words proved of little value as index terms; multiple word terms were generated by the computer, but no algorithm successfully eliminated useless phrases. Comprehensive book index achieved by using machine aided rather than fully automated indexing techniques. 11 refs. – *From the author abstract.*

1335.70

BORKO, HAROLD; HAYES, R. M.

Univ. of California, Los Angeles, Calif., School of Library Service

Education for information science (documentation). Sponsored by National Library of Medicine, Bethesda, Md. February 1970, 21 p. [ERIC: ED 041 484 HC$1.15 MF$0.25].

Program leading to M.S. in Information Science at Univ. of California emphasizing the design of information storage and retrieval systems for the acquisition, processing, control, and dissemination of documents. Aims and content of the five basic information science courses; overall objectives and the procedures by which students are helped to achieve them, role of courses in other departments; the use of courses by nonlibrary students; and the role of the thesis. – *From the 'RIE' abstract.*

1336.70

BRICK, DONALD B.; FUREY, WILLIAM N., JR.; HENDRICHON, ERNEST G.
Infoton Inc., Burlington, Mass.

Research in adaptive pattern recognition. Report 100:30. Contract 4752(00). August 1970, 159 p. [NTIS: AD 711 675].

Review of significant aspects of studies not extensively reported elsewhere. Emphasis on development and evaluation of pattern recognition schemes with minimal or no dependence on a priori knowledge of the underlying statistical behavior hof the pattern classes to be discriminated. Significant developments include a nonparametric procedure which first transforms the unknown probability structure of a pattern discrimination problem to the real line and then partitions this induced space by a method based on the difference of empirical distribution functions; a least-squares functional expansion about the Bayes (optimum) decision surface which leads to a type of polynomial discriminant function; a transformation such that a class of stochastic processes can be characterized by the distribution of a set of discrete parameters; and two procedures for ranking features according to their effectiveness in discriminating among dichotomous pattern classes. – *From the 'R&D Reports' author abstract.*

1337.70

CASE WESTERN RESERVE UNIV., Cleveland, Ohio, Center for Documentation and Communication Research

A selected bibliography of documentation and information science. 1969, 21 p. [ERIC: ED 038 998 HC$1.15 MF$0.25].

Revision of bibliography of Case Western Reserve Univ. School of Library Science, restricting contents to current items, except where older documents are listed to preserve series. Listings are divided into six sections: basic research in information science, experimentation, professional applications, interdisciplinary aspects of information science, education in librarianship and information science, and general. – *From the 'RIE' abstract.*

1338.70

CASEY, FLORENCE
Federal Council for Science and Technology, Washington, D.C., Committee on Scientific and Technical Information

Compilation of terms in information science technology. COSATI-70-4. Contract NSF-C605. April 1970, 474 p. [NTIS: PB 193 346].

The compilation contains terms from the fields of communications, computer technology, library science, information science, and photography. It is designed to bring together variant definitions of terms shared by these fields as well as to provide definitions of words unique to each. – *From the 'R&D Reports' author abstract.*

1339.70

COLLMEYER, A. J.; SHEMER, J. E.
Xerox Data Systems, El Segundo, Calif.

Analysis of retrieval performance for selected file organization techniques. In: 1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 201-210.

Overview of basic file organization techniques. Problem stated, probability models, case studies, summary; spacial, calculated and tabular indices compared throughout. Four appendices: search strategies (spacial indexing), scatter storage and retrieval strategies (calculated index), I/O device models, retrieval. 10 refs.

1340.70

CONGRESS OF THE U.S., Washington, D.C., House Committee on Science and Astronautics

The management of information and knowledge: A compilation of papers prepared for the eleventh meeting of the panel on science and technology. 1970, 133 p. [ERIC: ED 040 733 MF$0.75; also USGPO: $0.60].

Document published separately from proceedings of 11th meeting of Panel on Science and Technology. Papers discuss impact of rapid development of computer and revolution in communication technology. Impact examined by educators, sociologists, and scientists. – *From the 'RIE' abstract.*

1341.70

CONGRESS OF THE U.S., Washington, D.C., House Committee on Science and Astronautics

The management of information and knowledge: Meeting of the panel on science and technology with the committee on science and astronautics, U.S. House of Representatives. Proceedings of the 11th meeting, 91st Congress, 2nd session, January 27-29, 1970. 1970, 243 p. [ERIC: ED 040 730 HC$12.25 MF$1.00].

Emphasis of meeting on management of information and knowledge. Topics included computers, communications, the economy, education, privacy, and technological obsolescence. – *From the 'RIE' abstract.*

1342.70

CORDARO, J. T., JR.; CHIEN, R. T.

Univ. of Illinois, Urbana, Ill., Coordinated Science Lab.

Design considerations of on-line document retrieval systems. R-456; UILU-ENG-70-201. Contract OEC-1-7-071213-4557. February 1970, 37 p. [NTIS: AD 701 972].

Response time of on-line document retrieval systems is analyzed. Linear and inverted file organizations are considered and their response times are evaluated. – *From the author abstract.*

1343.70

COULSON, JOHN

Research and Information Services for Education, King of Prussia, Pa.

A comparative study of differences in judged relevance of abstracts located by two information systems. 1970, 11 p. [ERIC: ED 039 008 HC$0.65 MF$0.25].

Investigation of differences in judged relevance of ERIC abstracts identified by mechanical and manual searching. 20 clients reported finding substantially more relevant ERIC abstracts identified by manual method than by mechanical searching system using same set of ERIC descriptors. – *From the 'RIE' author abstract.*

1344.70

CUADRA, CARLOS A.; LUKE, ANN W., eds.

System Development Corp., Santa Monica, Calif., Library and Documentation Systems Dep.

Annual review of information science and technology. Vol. 5. Chicago: Encyclopaedia Britannica, Inc./William Benton, 1970, 468 p. SBN 85229 156 6. $17.50.

Description and appraisal of developments in information science and technology, emphasizing 1969. Major sections include planning information systems and services, basic support tools, techniques and systems, special applications, professional aspects. New chapters on communications technology, management information systems, and information systems in state and local government. Bibliography with each chapter. 1231 refs.

1345.70
CULICOVER, PETER W.
IBM Corp., Boston, Mass., Programming Center
Paraphrase generation and information retrieval from stored text. MT: Mech Transl & Comput Linguist, 1968, 11:3&4.78-88.

Notion of paraphrase defined and different types analyzed. Methods of information retrieval discussed in light of above definitions. Keyword-keyphrase method found optimum procedures. 48 refs. – *From the journal abstract.*

1346.70
DANIELS, PARMELY C.; et al.
American Society for Information Science, Washington, D.C.
The thesaurus in action. Background information for a thesaurus workshop at the annual convention of the American Society for Information Science (32nd, San Francisco, Calif., 1-4 October 1969). October 1969, 33 p. [NTIS: AD 694 590].

Discussion of construction and use of thesaurus, in sense of standardized language for communication with and between information storage and retrieval systems. Based on Thesaurus of Engineering and Scientific Terms (TEST). Thesaurus is described and defined; story of project LEX shows how thesaurus is developed; building of local specialized thesaurus compatible with broader standard is explained; application of thesaurus to systems of indexing other than documents is described and experience with thesaurus is discussed, and guidance outlined on updating and improvement. – *From the 'RIE' author abstract.*

1347.70
GRAHAM, ROBERT M.
Massachusetts Institute of Technology, Cambridge, Mass.
File management and related topics. MAC-TM-12. Contract Nonr-4102(01). September 1970, 54 p. [NTIS: AD 712 068].

Evolution of a segment based file system. System is a collection of symbolically named segments organized in a hierarchial structure. The user directly references segments in the file system. – *From the 'R&D Reports' abstract.*

1348.70
HANAKI, SHIN-ICHI; TENMA, TSUTOMU; KIJI, KAZUO
Nippon Electric Company
[Realtime character recognition from a remote terminal] Enkaku-tanmatsu karano jitsujikan moji ninshiki. Jōhō Shori, 1970, 11:10.577. In Japanese; summary in English.

A total of 86 Katakana characters, 10 numerals, and some symbols printed by hand on an economical input device are recognized immediately after their completion by a computer software. A character pattern is analyzed and approximated, by the existence of specific features the input pattern is identified by a decision tree. Scheme also applied to man machine communication system CRIARS which recognizes hand printed characters and responds in synthesized speech.

1349.70
HAWKINS, JOSEPH K.
Robot Research, La Jolla, Calif.
Image processing: A review and projection. In: A. GRASSELLI, ed., Automatic interpretation and classification of images (New York: Academic Press, 1969), 199-234.

State of the art report from the standpoints of image classification, image enhancement and bandwidth reduction. Conceptual approaches identified and implementations evaluated. Sampled data concepts applied to the processing of highly parallel data by

means of interleaved, space shared operators, and examples of both image data extraction and image synthesis. – *From the 'R&D Reports' author abstract.*

1350.70

HAYES, R. M.

Univ. of California, Los Angeles, Calif., School of Library Service

Education in information science. February 1969, 14 p. [ERIC: ED 039 911 HC$0.80 MF$0.25].

The discussion of the various approaches being taken to education in information science includes the development of specific definitions of 'information', 'information system', and 'information science' which serve to rationalize these approaches. The result is a common core of interest to which the variety of curricula can be related. The differences in curricula are exhibited in terms of the relative priority they will assign to different course offerings. – *From the 'RIE' abstract.*

1351.70

HELBICH, JAN

Institute of Radiation Hygiene, Prague (Czechoslovakia)

Direct selection of keywords for the KWIC index. Inf Storage & Retr, 1969, 5:3.123-128. In English; summary in Czech.

Difficulties in applying the original Luhn's method of KWIC index shown on 11 stoplist variants as applied for the processing of chemical titles. Main advantages of direct selection: cutting down computing time by approximately 15 percent; permitting elimination of nonsignificant words from the index; making it possible to decide whether the same word should be considered significant or not with regard to the actual context. Direct selection of keywords in 100 titles does not take more than 30 minutes of human effort. Eight refs. (Presented before the Anglo-Czechoslovak Documentation Symposium, Ciba Foundation, London, May 20-26, 1967.)

1352.70

HERRGESELL, BARBARA, comp.

Syracuse Univ., Syracuse, N.Y., School of Library Science

A MARC bibliography: A guide to the literature on LC/machine readable cataloging. LEEP-70-1. March 1970, 18 p. [ERIC: ED 038 994 HC$1.00 MF$0.25].

List of English language materials in US, UK, and Canada concerning MAchine Readable Cataloging (MARC), from King report to October 1969. Citations of a few later materials added. Citation sources include: (1) 'Library Literature', (2) 'Annual Review of Information Science and Technology', (3) 'Information Bulletin', (4) 'Bibliography of Library Automation', and (5) miscellaneous bibliographies owned by Library Education Experimental Project. – *From the 'RIE' abstract.*

1353.70

HINES, THEODORE C.; HARRIS, JESSICA L.; COLVERD, MARTIN

Columbia Univ., New York, N.Y., School of Library Science

Experimentation with computer assisted indexing: 'American Documentation', Volume 20. ASIS (J Am Soc Inf Sci), 1970, 21:6.402-405.

Description of procedures used to produce index to 1969 volume of 'American Documentation'. Subject terms assigned by human indexer, all other access points are program retrieved from input data. Basic steps, general considerations, statistics. – *From the author.*

1354.70

HOLLAND, STEVEN A.

Applied Information Development, Inc., Oak Brook, Ill.

The remote inquiry of data bases. Datamation, 1970, 16:15.54-59, 62.

Design of flexible and efficient generalized inquiry system capable of use by untrained people, using small core and multitasking inquiries. Goals, terminal language, interpreter, processor, file handler and interface, macro system; improvements. - *From the author.*

1355.70

HULL, RICHARD B.

Academy for Educational Development, Inc., Washington, D.C.

Dial access information retrieval systems. BR-8-0571. 1970, 13 p. [ERIC: ED 039 709 HC$0.75 MF$0.25].

Electronic dial access information retrieval system (DAIRS) represents the combination of magnetic tape recording and replay devices and telephone dialing switching devices. The future will probably bring a combination of the various attributes of a DAIRS system related to multi-branching systems of logic in computer assisted programmed instruction. A thorough analysis of educational objectives and procedures is necessary. (This is one of the support papers for 'To Improve Learning; A Report to the President and the Congress of the United States by the Commission on Instructional Technology', ED 034 905.) - *From the 'RIE' abstract.*

1356.70

INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS ABSTRACTING BOARD

Proceedings of the full board meeting, July 1970, Columbus, Ohio. Paris: International Council of Scientific Unions, 1970, 265 p.

Reports of specialized working groups and committees; proposed program for future work of ICSU AB; reports from member services and member unions; reports from associate members and observers; review, summary and conclusions.

1357.70

INTERNATIONAL FEDERATION FOR INFORMATION PROCESSING AND INTERNATIONAL COMPUTATION CENTER, JOINT TECHNICAL COMMITTEE ON TERMINOLOGY

IFIP-ICC vocabulary of information processing; First English language edition. Amsterdam: North-Holland, 1968, x, 208 p. $6.80.

First volume of series to be a multilingual vocabulary; each volume is single language vocabulary of common words in information processing. Concepts keyed for easy interlingual reference. 20 headings include general concepts, data description and representation, techniques in handling and processing data, digital computer programming, system operation and performance, equipment techniques. (See 1358.)

1358.70

INTERNATIONAL FEDERATION FOR INFORMATION PROCESSING, TECHNICAL COMMITTEE I - TERMINOLOGY

IFIP Fachwörterbuch der Informationsverarbeitung. Erste deutschsprachige Ausgabe. Amsterdam: North-Holland, 1968, xiii, 280 p. 45 f. (105 s.; $12.60). In German.

Part of series to make up a multilingual vocabulary; each volume is single language vocabulary of common words in information processing. Concepts keyed for easy interlingual reference. 20 headings include general concepts, data description and

representation, techniques in handling and processing data, digital computer programming, system operation and performance, equipment techniques. Alphabetical German-English index. German language edition of multilingual series. (See 1357.) Translations from the English by Irene Basten.

1359.70

JANSEN, JAMES MERRITT, JR.

Univ. of Illinois, Urbana, Ill., Coordinated Science Lab.

Phrase dictionary construction methods for the R2 Information Retrieval System. Contract OEC-1-7-071213-4557, by Joint Services Electronics Program, Fort Monmouth, N.J. December 1969, 64 p. [NTIS: AD 699 354].

The R2 Information Retrieval System, when complete, will be a question-answer information retrieval system. The paper contains the initial processing of the data base and explores several simple strategies for retrieving relevant statements, rather than answers, for a given question over the data base. The paper is first concerned with the construction of a 'phrase dictionary' from the data base, and, secondly, with the development of several initial attempts for information retrieval from the data base. – *From the author abstract.*

1360.70

JORDAN, JOHN R.

Iowa State Univ., Ames, Iowa, Ames Laboratory of the USAEC

Let the computer select your reading list. Datamation, 1970, 16:2.91-94.

Description of the Ames SDI-KWOC Index. System scans 4,000 titles weekly and notifies user of new documents of interest; example of notification; user flowchart; cost, improvements to system.

1361.70

KENT, ALLEN

Academy for Educational Development, Inc., Washington, D.C.

Information science: Media implications of the new means of information organization. BR-8-0571. 1970, 21 p. [ERIC: ED 039 710 HC$1.15 MF$0.25].

Discussion of the implications of modern technology for the library and information center of the future, the campus based information systems, the field of information science and education, and the media involved in the field of library and information science. (This is one of the support papers for 'To Improve Learning; A Report to the President and the Congress of the United States by the Commission on Instructional Technology', ED 034 905.) – *From the 'RIE' abstract.*

1362.70

LUM, V. Y.

IBM Research Laboratory, San Jose, Calif.

Multi-attribute retrieval with combined indexes. Commun ACM (Assoc Comput Mach), 1970, 13:11.660-665.

Scheme for variously combining conventional inverted indexes to a file to form new set of indexes providing faster access to the file. Comparison of scheme with simple set of inverted indexes and with balanced filing scheme. Eight refs.

1363.70

MAHLE, JACK D., JR.

Wolf Research and Development Corp., Bladensburg, Md.

Information retrieval system. November 1969, 99 p. [NTIS: AD 699 387].

Description of the Fort Detrick system of computer programs written in COBOL for a CDC 3150 to store and retrieve information about abstracted and indexed documents of the Fort Detrick Technical Library. Abstract, descriptors, title, personal and corporate authors, series and contract numbers, security classifications, and other pertinent information make up the master record of the information retrieval system. In addition to Boolean search capability, provision has been made for printing six book catalogs, e.g., personal author, corporate author, contracts, descriptors, etc. arranged by accession number (subject matter indicated by descriptor codes). The inverted file records are arranged by descriptor. - *From the 'RIE' abstract.*

1364.70

MAIXNER, VÍTĚZSLAV

Central Office for Scientific, Technical and Economic Information, Prague (Czechoslovakia)

An elementary general syntax for retrieval languages. Inf Storage & Retr, 1969, 5:3.135-137. In English; summary in Czech.

Elementary syntax to provide basic set of rules controlling the semantic structures of document descriptions, following the general hierarchy of syntagmatic relations of Indo-European languages. The correlation with the rules of lexical-semantic relations is simple, but relatively close, being stipulated by the condition of specified univocality on all syntagmatic planes. When strictly observed, this should minimize noise resulting from false combinations (provided a proper retrieval strategy is applied). Described syntax feasible in many different forms, including systems using links, brackets, and equivalent formal code signs. Attempt to generalize and standardize some existing syntagmatic systems used with retrieval languages. Three refs. - *From the author abstract.*

1365.70

MALININ, S. G.; NEMIROVSKAJA, V. S.; RUMJANCEV, V. P.; RJABENSKIJ, S. S.; SUMAROKOV, L. N.

[Soviet scholars discuss problems of information systems]. (Transl. from the Russian, Nauchno-Tekh Inf, Series 2, 1970, 4.15-18.) [NTIS: JPRS 51192].

Rising costs are making it simpler and cheaper to repeat some scientific work than to look for the finished results. The contradiction between the complexity and scope of the problems which STI faces and the inefficient methods of dealing with these problems, the insufficiently developed equipment and untrained information personnel, is another major contradiction creating a crisis in STI. - *From the 'R&D Reports' author abstract.*

1366.70

MARTIN, M. D.

Institution of Electrical Engineers, London (England), INSPEC

Proposals for an international serials data system. In: Proceedings of the full board meeting (Paris: International Council of Scientific Unions, 1970), 63-70.

Discussion of a feasibility study of an international serials data system (ISDS) done by INSPEC for the UNISIST/ICSU-AB working group on bibliographic descriptions; analysis of existing and proposed serials data systems relevant to ISDS, especially ASTM CODEN and ANSI SSN; user requirements, organization of system, and methodology for maintaining serials data base.

1367.70

MERTA, AUGUSTINE

Central Office for Scientific, Technical, and Economic Information, Prague (Czechoslovakia)

Problems of creating the national mechanized information system in Czechoslovakia. Inf Storage & Retr, 1970, 6:1.45-52.

Problems connected with intellectual, operational, and economic conditions of creating the mechanized national macro- and micro-information system of scientific, technical and economic information (STEI), since 1967 an important governmental research program in Czechoslovakia. – *From the author abstract.*

1368.70

MORGAN, RICHARD S.

International Data Highways Ltd., Birmingham (England)

Optical readers: 1970. Comput & Hum, 1970, 5:2.75-78.

Updates 1968 state of the art article. Battle of the fonts: OCR-A of IBM vs. OCR-B of European Computer Manufacturers' Association. Emergence of multifont Scan-Data 300 as 'best buy'. New equipment of interest: Farrington 3030 (full alphabetic character reader), IBM 1412, 1418, 1287-1288 Reader Sorters.

1369.70

NELSON, CARNOT E.; POLLACK, DONALD K., eds.

Johns Hopkins Univ., Baltimore, Md.

Communication among scientists and engineers. Studies in social and economic process; Heath Lexington books. Lexington, Mass.: D. C. Heath, 1970, xv, 346 p.

Collection of papers given at conference on communication among scientists and technologists, Johns Hopkins Univ., 28-30 October 1969. Three major sections deal with communication structure of science and the production of scientific information, the utilization of scientific information, the development of systems.

1370.70

O'CONNOR, JOHN J.

Lehigh Univ., Bethlehem, Pa., Center for Information Science

Answer-providing documents: Some inference descriptions and text-searching retrieval results. ASIS (J Am Soc Inf Sci), 1970, 21:6.406-414.

Study of subject document retrieval system by pairs of questions and answer-providing documents; explicit descriptions of inferences for question-document pairs; effectiveness of answer-providing documents retrieved by text searching. Three refs.

1371.70

O'CONNOR, JOHN J.

Lehigh Univ., Bethlehem, Pa., Center for Information Science

Subject document retrieval systems. Final Report 1 April 1959-31 March 1970. Contract N00014-67-A-0370-0002. July 1970, 10 p. [NTIS: AD 711 309].

Covers storage organization, automatic indexing, retrieval evaluation, retrieval relevance of documents, answer-providing documents, and a few miscellaneous preliminary studies. Brief summaries and annotated bibliography. – *From the 'R&D Reports' author abstract.*

1372.70

OOTUKA, HARUO; et al., eds.

Japan Documentation Society (NIPDOK), Tokyo (Japan)

Science information in Japan. 2nd and rev. ed. Tokyo: Japan Documentation Society, (NIPDOK), Kikai Sinko Kaikan, 1967, v, 192 p.

Revision of 1962 volume reflecting new coordinated policy for science and technology. Covers all aspects of information production and flow. 27 appendices give statistics.

1373.70

OTRADNYKH, V. V.; KRAVČENKO, N. D.

[A method for indexing unabridged texts] Ob odnom metode indeksirovanija polnyx tekstov. Nauchno-Tekh Inf, Series 2, 1969, ?.16-22. In Russian.

Method of automatic indexing of primary documents consisting of translation from a natural language (Russian) into an information language of some phrases from texts, the phrases being selected not by the frequency of component words within the given document, but by special words serving as indicators of the viewpoint towards the subject discussed in the document. 12 refs. – *From the journal abstract.*

1374.70

PARKER, EDWIN B.

Behavioral research in the development of a computer based information system. In: Carnot E. NELSON; Donald K. POLLOCK, eds., Communication among scientists and engineers (Lexington, Mass.: D. C. Heath, 1970), 281-292.

Use of behavioral research in development of Stanford Public Information Retrieval System (SPIRES). SPIRES designed to meet information needs of Stanford and automate international operations in its libraries. Development strategy, user feedback mechanisms, present status, future plans. – *From the author.*

1375.70

PEARSON, KARL M.

System Development Corp., Santa Monica, Calif.

MARC and the library service center: Automation at bargain rates. SP-3410. September 1969, 15 p. [ERIC: ED 038 991 HC$0.85 MF$0.25]

Discussion of library automation. Time sharing and disc mass storage devices will lower automation costs, if spread over a number of users. Distribution of MAchine Readable Cataloging Code (MARC) II tapes by Library of Congress. Combination of advances will expand automated library services market. – *From the 'RIE' abstract.*

1376.70

PETŐFI, JÁNOS S.

Hungarian Academy of Sciences, Budapest (Hungary), Computing Center

[The present state of the thesaurus problem with special regard to scientific, technical and economic information] A tezaurusz-kérdés jelenlegi helyzete különös tekintemel a tudományos műszaki-gazdasági tájékoztatásra. A tudományos tájékoztatás elmélete és gyakorlata 12. Budapest: Országos Műszaki Könyvtár és Dokumentációs Központ (OMKDK), 1969, 167 p.

General problems of thesaurus structuring; necessity and circumstances of creating thesauri; brief outline of major ones to date and under development. Materials investigated indicate main problems in structuring thesauri to be whether to do this independently of computational applications; how to coordinate subject entries (by using a builtin hierarchy or one independent of the thesaurus, for indexing purposes); type of interrelationship to be established among various branches of science and different thesaurus structures to ensure harmonious interplay between general and

special thesauri, unanimity of meanings of the indexing subject entries and that of their subject-interdependence and their full cross reference system; ways to assure compatibility of thesauri in other languages with a national language thesaurus based on previous indexing experience; type of internal formal structure of the thesaurus to include all necessary interrelations and groupings for effective use. 171 refs. - *From the author abstract.*

1377.70

ROSENFELD, SAMUEL A.; SABLE, JEROME

Auerbach Corp., Philadelphia, Pa.

Requirements for LINCS file management system. Technical report 1604-100-TR-1. LINCS 8-69. Grant NSF GN-771. June 1969, paged by section. [NTIS: PB 186 472].

Structural description of system for Language Information Network and Clearinghouse System (LINCS); types and possible combinations of bibliographic data elements, levels of accessibility and modes of user interaction. Evaluation criteria, long range trends, design objectives, application of evaluation criteria. Six refs.

1378.70

SALTON, GERARD

Cornell Univ., Ithaca, N.Y., Dep. of Computer Science

Evaluation problems in interactive information retrieval. Inf Storage & Retr, 1970, 6:1.29-44.

Interactive retrieval environment briefly examined and special problems which arise in its evaluation discussed. Methods described for evaluating partial file searches and user feedback techniques. Evaluation results obtained with the SMART system presented. 23 refs. - *From the author abstract.*

1379.70

SAMUELSON, KJELL, ed.

Stockholm Univ., Stockholm (Sweden), Royal Institute of Technology, Information Processing-ADP Research Group

Mechanized information storage, retrieval and dissemination. Proceedings of the FID/IFIP Joint Conference, Rome, June 14-17, 1967. Organized by the Fédération International de la Documentation and the International Federation for Information Processing. Amsterdam: North-Holland, 1968, xiv, 729 p. $27.50.

Conference to explore the interface between computers and documentation and to gain a better understanding of current developments in these areas. Forty-nine formal papers covering introduction to the field, file organization and search strategy (theoretical vs. operational), economics and comparison of documentation systems, computer aided production of publications and indices, information networks and on-line systems. Acronym, name, and subject indices.

1380.70

SANDEWALL, ERIK

Uppsala Univ., Uppsala (Sweden), Dep. of Computer Sciences

Formal methods in the design of question-answering systems. Report 28. Contract Dnr 2654-3, by Swedish National Science Research Council (partial support). October 1970, paged by section.

Explanation of use of notation of first order predicate calculus for a data structure in question-answer programs. Description of usefulness of axiomatization in design of retrieval program and usual procedure for setting up set of axioms. 14 refs. - *From the author abstract.*

1381.70

SCHMIDT, CHARLES THOMAS

A dictionary structure for use with an English language preprocessor to a computerized information retrieval system. Master's thesis, Naval Postgraduate School, Monterey, Calif., 1970, 51 p. [NTIS: AD 710 363].

Description of formation of a dictionary list structure which can be used by an English language translator to enable natural language man-machine conversation directed towards the retrieval of information from a data bank. Discussion of the hierarchical structure of the letters in a word and the placement of word attributes in this structure; computer program, which accepts as input an English language sentence and processes this sentence in conjunction with the dictionary list structure to obtain the attributes of the individual words; incorporation of this dictionary structure into a complete natural language information retrieval system. – *From the 'R&D Reports' author abstract.*

1382.70

SINGER, IRA J.

Academy for Educational Development, Inc., Washington, D.C.

At will and at once: The audio-video dial access information retrieval system. BR-8-0571, 1970, 36 p. [ERIC: ED 039 714 HC$1.90 MF$0.25].

If dial access systems are to succeed and proliferate, a concerted attempt must be made to produce software based on student and curricular needs; a program must be constructed which stresses a positive, content oriented approach to teacher training; and flexible, economic, durable, and reliable hardware must be designed and produced. (This is one of the support papers for 'To Improve Learning: A Report to the President and the Congress of the United States by the Commission on Instructional Technology', ED 034 905.) – *From the 'RIE' abstract.*

1383.70

SMITH, J. R.

A world system for abstracting and indexing services. Part I: A plan for developing cooperation at the input stage. In: Proceedings of the full board meeting (Paris: International Council of Scientific Unions, 1970), 79-99.

Discussion of methods of improving flow of scientific and technical information; prerequisites of system design.

1384.70

SOROKIN, I. N.

All-Union Institute for Scientific and Technical Information (VINITI), Moscow (USSR)

VINITI: A descriptor information retrieval system in informatics (DIPSI-1). In: Proceedings of the full board meeting (Paris: International Council of Scientific Unions, 1970), 115-119.

Discussion of retrieval system for scientific and technical information; development of descriptor dictionary as preliminary step.

1385.70

STEVENS, MARY ELIZABETH

National Bureau of Standards, Washington, D.C., Center for Computer Sciences and Technology.

Automatic indexing: A state of the art report. NBS-Monogr-91, February 1970, 298 p. [ERIC: ED 041 610 MF$1.25; USGPO: C13.44:91 $2.25].

Indexes compiled by or with the aid of machines, including citation indexes. Exemplified by key word in context (KWIC) and other word in context techniques; advantages, disadvantages, and possibilities for modification and improvements.

Experiments in automatic assignment indexing, related research efforts such as automatic classification and categorization, computer use of thesauri, statistical association techniques, and linguistic data processing; question of evaluation. Shows promise for future progress. – *From the 'RIE' author abstract.*

1386.70

STEVENS, MARY ELIZABETH

National Bureau of Standards, Washington, D.C., Center for Computer Sciences and Technology

Information acquisition, sensing, and input: A selective literature review. Research and development in the computer and information sciences 1. NBS-Monogr-113-Vol-1. March 1970, 169 p. [ERIC: ED 039 891 MF$0.75; USGPO: C13.44:113/Vol.1 $1.50].

The series, of which this is the initial report, is intended to give a selective overview of research and development efforts and requirements in the computer and information sciences. Specific topics include but are not limited to source data automation and remote sensing techniques, communication systems and data transmission links, audio and graphic inputs, preprocessing operations upon input items, character recognition, speech recognition and various other aspects of automatic pattern recognition. 640 refs. – *From the 'RIE' abstract.*

1387.70

STEVENS, MARY ELIZABETH

National Bureau of Standards, Washington, D.C., Center for Computer Sciences and Technology

Processing, storage, and output requirements in information processing systems: A selective literature review. Research and development in the computer and information sciences 2. NBS-Monogr-113-Vol-2. May 1970, 125 p. [USGPO: C13.44:113/Vol.2 $1.25].

Second of a series intended to improve the interchange of information among those engaged in research and development in the fields of computer and information sciences. Specifically covers areas of information processing, storage and output. Sections include processor system considerations; storage, file organization, and associative memory requirements; mass storage considerations; output and post-processing requirements; system output to microform and hard copy; system use and evaluation; background notes on research and bibliography. Two appendices, including extensive bibliography.

1388.70

STILLWELL, JOHN

Syracuse Univ., Syracuse, N.Y., School of Library Science

LEEP program description and manual: MARC II search program. LEEP-70-2. May 1970, 38 p. [ERIC: ED 041 600 HC$2.00 MF$0.25].

General description, implementation, search criterion, formation of retrieval statements, list statement formation, forming the retrieval request card deck. Errors and diagnostic messages, MARC II search output file. Sample run using the current printing program; MARC II Search Program and the current printing program. – *From the 'RIE' abstract.*

1389.70

SUMMIT, ROGER K.

Lockheed Aircraft Corp., Palo Alto, Calif.

ERIC on-line retrieval system. Use of the DIALOG on-line information retrieval system with ERIC Research in Education files. Final report. OEC-9-9-140161-0028. April 1970, 58 p. [ERIC: ED 040 592 HC$3.00 MF$0.50].

The DIALOG system was used to test the utility of computer based on-line retrieval of material from the ERIC document files for retrospective retrieval and for generation of special bibliographies. Users were impressed by the speed and 'horizon widening' effects of the system. – *From the 'RIE' abstract.*

1390.70

SURACE, CECILY J.

Rand Corp., Santa Monica, Calif.

The displays of a thesaurus. P-4331. March 1970, 38 p. [ERIC: ED 039 002 HC$2.00 MF$0.25].

Discussion of alphabetical, hierarchical, permuted thesaurus displays; techniques for hierarchy, categorization, permutation, and semantic and syntactic relationships; intuitive discussion of displays useful to indexer or retriever. Discussion of usefulness of computer for file update and maintenance and for on-line display terminals. – *From the 'RIE' abstract.*

1391.70

SWETS, JOHN A.; KALIKOW, DANIEL N.; KLATT, DENNIS H.; GRIGNETTI, MARIO C.; MILLER, DUNCAN C.

Bolt, Beranek, and Newman, Inc., Cambridge, Mass.

Information processing models and computer aids for human performance. Semiannual technical report 7, 1 January-31 July 1970. BBN-2008. Contract F44620-67-C-0033. July 1970, 267 p. [NTIS: AD 711 378].

Progress is reported on four research tasks. An experiment was designed to test the effectiveness of our computer based phonology instructional system for second language learning, using Spanish speaking students with English as the target language. In research on models of human-computer interactions, experiments were performed demonstrating that the provision of certain incentives to the users of a time sharing system can have the effect of shaping patterns of user-choice behavior which improve the overall efficiency of the system. The investigation of programming languages as a tool for cognitive research has led to the development and construction of a wireless computer controlled vehicle to aid students in conceptualizing previously abstract processes in problem solving. In addition, an experiment was conducted in teaching the programming language LOGO to a group of hard-to-teach students, and the validity of standard measurements of achievement level was investigated. Studies of human memory and language processing have further elucidated the cognitive operations involved in the storage, retrieval, and utilization of factual material. – *From the 'R&D Reports' author abstract.*

1392.70

TOUSSAINT, GODFRIED T.; DONALDSON, ROBERT W.

Univ. of British Columbia, Vancouver (Canada), Dep. of Electrical Engineering

Algorithms for recognizing contour-traced handprinted characters. IEEE Trans Comput, 1970, C-19:6.541-546.

Modification of Clemens and Mason contour-tracing technique used with several different classifiers to recognize upper case handprinted characters. One suboptimum classifier yields near optimum performance on training data. – *From the 'R&D Reports' abstract.*

1393.70

VARGA, DÉNES

Hungarian Academy of Sciences, Budapest (Hungary), Computing Center

[Methodology for preparing information thesaurus] Információs tezauruszok készítésének módszertana. A tudományos tájékoztatas elmélete és gyakorlata 15. Budapest: Országos Müszaki Könyvtár és Dokumentációs Központ (OMKDK), 1969, 156 p.

Conception of new-type thesaurus based on more subtle semantic distinctions than other similar works. Relying on the achievements of psychology, philosophy, and informatics; tries to find typical interrelations, the distinction of which is both possible and useful in preparing thesaurus. According to the results of investigations, study proposes non-hierarchical relations and hierarchical relations and complementary information to be distinguished and indicated. Detailed analysis of the development of the thesaurus conception and summation of decisive aspects and general methodological principles of preparing thesauri. Elaboration of the methodology of work. Terminological problems of hierarchical classification schemes and the disintegration of titles of periodicals to be built in the thesaurus. Analysis of the reasons for the incompatibility of thesauri prepared in different languages and the pecularities of special languages. 52 refs. – *From the author abstract.*

1394.70

VENDA, VALERII FEDOROVICH

[Informational technology and ergonomics] Informatsionnaja texnika i ergonomika. Moscow: n.p., 1970, 45 p. Transl. from the Russian monograph by Joint Publications Research Service, Washington, D.C. [NTIS: JPRS-51123].

Contents: Man in the informational system; representing large flows of information; means of representing information.

1395.70

WHITTENBURG, JOHN A.

Guidelines for planning a task oriented information system. In: Carnot E. NELSON, and Donald K. POLLOCK, eds., Communication among scientists and engineers (Lexington, Mass.: D. C. Heath, 1970), 269-279.

Discussion of problems of increasing volume of scientific and technical information: missing relevant information, receiving irrelevant or outdated information. Description of system for minimizing information/data processing requirements of user. Two figs., seven tables. – *From the author.*

1396.70

WILLIAMS, J. H., JR.

IBM Corp., Bethesda, Md., Federal Systems Div.

BROWSER: An automatic indexing on-line text retrieval system. Annual progress report. September 1969, 29 p. [NTIS: AD 693 143].

Description of development and testing of BRowsing On-line With SElective Retrieval (BROWSER) text retrieval system allowing natural language query statement and providing on-line browsing capabilities through IBM 2260 display terminal. BROWSER indexes textual documents, creates inverted file for searching unformatted text and formatted files for searching bibliographic fields, which may be searched independently or in conjunction with text search. In addition to outputs of citations and abstract text, a new form of output, the Response Index, is provided, which enables searcher to view contents of file with respect to search terms and to screen machine output for ultimate user. As there are no syntax or parsing routines, search algorithms are virtually independent of language. – *From the 'RIE' author abstract.*

1397.70

WOOD, J. L.

Chemical Abstracts Service, Columbus, Ohio, Bibliographic Support Division

The UNISIST/ICSU AB working group on bibliographic descriptions. In: Proceedings of the full board meeting (Paris: International Council of Scientific Unions, 1970), 49-62.

Discussion of methods of implementing interchange of bibliographic data and facilitating cooperative efforts to reduce duplication; immediate benefits of standardization; market expansion for services. - *From the author.*

1398.70

WRIGHT-PATTERSON AFB, Ohio, Foreign Technology Div.

[All-Union conference on information retrieval systems and automatic processing of scientific and technical information. Transactions, 3D, Moscow, USSR, 1967; selected articles] Trudy Vsesojuzoj konferencii po informatsionno-poiskovym sistemam i avtomatizirovannoj obrabotke naucno-texniceskoj informacii 3D, Moscow, 1967. FTD-MT-24-130-69. 1969, 211 p. [NTIS: AD 697 687].

Place of the machine in scientific and technical information is explored including basic trends in the development of information retrieval systems; preparation of engineering and scientific cadres with respect to mechanization and automation of information works; the logic of descriptor retrieval systems; the 'SETKA-3' automated information processing system (IPS) on the 'MINSK-22' with the use of the socket associative-address method of organization of information; experience in creating information retrieval language via computer technology; realization of thematic information retrieval systems on an electronic digital computer; certain questions of machine preparation of indexes for current and retrospective retrieval of scientific and technical information materials; mechanized IPS for a varied fund developed and introduced by the Upper-Volga Tsbti; questions of development of an information retrieval system for automated control of the work of a naval fleet of steam navigation; and experimental investigations of comparative effectiveness of manual and mechanized IPS in the N.K. Krupskaja Leningrad State Institute of Culture. - *From the 'RIE' abstract.*

1399.70

WRIGHT-PATTERSON AFB, Ohio, Foreign Technology Div.

[All-Union conference on information retrieval systems and automatic processing of scientific and technical information. Transactions, 3D, Moscow, USSR, 1967; selected articles] Trudy vsesojuznoj konferencii po informatsionno-poiskovym sistemam i avtomatizirovannoj obrabotke naucno-texniceskoj informacii 3D, Moscow, 1967. FTD-MT-24-133-69. July 1969, 66 p. [NTIS: AD 696 232].

Selected articles: (1) Questions of the automation of input, output and data processing on computers in systems of information services are covered in the discussion of peculiarities of applied computers and processed information, general characteristics of processing algorithms and problems of information input and output. (2) Discussion of the organizations of an information system based on the computer 'DNEPR'; basic

parameters of the computer, exchange of information in the man-machine system diagrammatically shown. (3) Development of a dictionary and algorithms for the system of automatic descriptor indexing of patent documentation in the English language. (4) Questions of the dynamic optimization of information process in computers with highly developed parallelism: initial prerequisites and formulation of the problem, selection and description of the method of dynamic optimization and method and certain results of an experimental check of the selected method. – *From the 'RIE' abstract.*

See also 1237, 1257, 1608.

THEORETICAL LINGUISTICS

Trends in formal and descriptive linguistic theory; algebraic linguistics, mathematical logic as applied to linguistics. (Selections.)

1400.70

ABRAHAM, WERNER

[The passive and deverbal adjectives with English '-able', German '-bar'] Passiv und Verbableitung e. '-able', dt. '-bar'. Folia Linguist, 1970, 4:1/2.38-52. In German.

Demonstrates difficulties in using Chomsky's transformational model to explain predicative uses of past participles and adjectives derived from past participles by the addition of 'un-' or '-able' in English and '-bar' in German, and presents an alternative explanation.

1401.70

ALLEN, J. P. B.; VAN BUREN, PAUL, eds.

Univ. of Edinburgh, Edinburgh (United Kingdom), Dep. of Linguistics

Chomsky: Selected readings. Language and language learning 31. London/New York: Oxford Univ. Press, 1971, ix, 166 p. SBN 19-437114-X; 19-437046-I (paperback). $4.50 (h.c.).

Presents the main outlines of Chomsky's transformational theory under the headings of Basic Principles, Syntax I, Syntax II, Phonology, Syntax and Semantics, Language Acquisition, and Language Teaching. Extensive bibliography.

1402.70

BALTAXE, CHRISTIANE ANNA-MARIA

N. S. Trubetzkoy and the development of the theory of distinctive features. Ph.D. thesis, Univ. of California, Los Angeles, 1970, 303 p. Diss Abstr Int 1970, 31:1.1782-A. [UM: 70-19,823 Xerox $13.75 MF$4.00].

1403.70

BAR-HILLEL, YEHOSHUA

Aspects of language. Jerusalem: Magness Press/North-Holland Publishing Co., 1970, 381 p.

Essays and lectures on philosophy of language, linguistic philosophy and methodology of linguistics.

1404.70

BASSALYGO, L. A.; PADUČEVA, E. V.

[Structural functionals of context-free grammar and derivational complexity evaluation] Strukturnye funkcionaly beskontekstnoj grammatiki i ocenki složnosti vyvoda. Nauchno-Tekh Inf, Series 2, 1970, 2.28-32. In Russian.

Concept of the structural functional of a context free grammar, which assigns to each derivation in a given grammar a structural description of the sentence derived. Functional assigning to a sentence its phrase structure (P structure) is called a P functional; that assigning the dependency or the structure of dependencies (D structure) is a D functional. Hence, dependency grammar is a pair 'context free grammar + one of its D functionals'. Functionals are constructed as to produce the P (or D) structure of the whole sentence from specifications of P (or D) structures in the right-hand parts of the grammar rules; these specs are not necessarily unique in both cases. In the general case, the P and D structures assigned to sentences of the same grammar are mutually independent. Certain natural restrictions are considered that are imposed on the grammar and the functional to provide for the establishment of a one-to-one correspondence between the P and D structures. Generalizing structures proposed for the general case that permit unique reconstructions of P and D structures. Methods are proposed for evaluating sentence depth using some of the structures described. Nine refs. – *From the journal abstract.*

1405.70

BRAUN, STEPHAN

Technische Hochschule, Munich (Germany)

Some formal properties of phonological redundancy rules. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 6. 27 p.

Mathematical investigation of redundancy phenomenon based on distinctive feature theory of Jakobson and Halle. Confirmation of Stanley's view that complete set of P-rules for set of fully specified phonemes can be derived from prime implicants of a certain Boolean function and thus computed without recurrence to linguistic intuition. Discussion of phoneme structure, morpheme structure, and lexicon rules. Seven refs. – *From the author.*

1406.70

CARDEN, GUY

Air Force Cambridge Research Labs., Bedford, Mass.

On post-determiner quantifiers. Linguist Inq, 1970, 1:4.415-427.

Discussion of post-determiner quantifiers as more closely related syntactically to true adjectives than to pre-determiner quantifiers. Post-determiner Qs act syntactically and semantically as nonrestrictive adjectives, and both are probably derived from deep structure nonrestrictive relative clauses with quantifier in overt predicate position. Confirmatory examples. 14 refs. – *From the author summary.*

1407.70

COSERIU, EUGENIO

Univ. of Tübingen, Tübingen (Germany), Romanisches Seminar

[Semantics, internal language form, and deep structure] Semantik, innere Sprachform und Tiefenstruktur. Folia Linguist, 1970, 4:1/2.53-63. In German.

Several basic concepts of transformational grammar and their relation to pretransformational theory discussed. Criticism of Chomsky's interpretation of Humboldt's form, meaning, and function.

1408.70

CULICOVER, PETER

Syntactic and semantic investigations. Ph.D. thesis, Massachusetts Institute of Technology, 1971.

1409.70

ČULIK, KAREL

Czechoslovakian Academy of Sciences (ČSAV), Prague (Czechoslovakia), Mathematics Institute

N-ary grammars and the description of mapping of languages. Kybernetika, 1970, 6:2.99-117. In English; summary in Czech.

N-ary grammars generating relations (set of n-tuples of words) introduced. Chomsky's classification generalized for them and closure, projective and other properties of different classes of relations generated by n-ary grammars studied. N-ary grammars used for describing mappings of languages (e.g. translation) and for classification of their complexity. Seven refs. – *From the journal abstract.*

1410.70

DANEŠ, FRANTIŠEK

[On the linguistic analysis of the structure of texts] Zur linguistischen Analyse der Textstruktur. Folia Linguist, 1970, 4:1/2.72-78. In German.

Discusses the use of the topic-comment distinction in the analysis of text structure, and isolates five types of topic-comment relationship.

1411.70

DERWING, BRUCE L.

Transformational grammar and language acquisition. Ph.D. thesis, Indiana Univ., 1970.

1412.70

DRESSLER, WOLFGANG

[Models and methods for analyzing the syntax of texts] Modelle und Methoden der Textsyntax. Folia Linguist, 1970, 4:1/2.64-71. In German.

Basic rules for a universally valid model of language, to be applied not only to a classical generative grammar but to a dependency grammar for the analysis of texts as well. 12 refs.

1413.70

EMONDS, JOSEPH

Root and structure-preserving transformations. Ph.D. thesis, Massachusetts Institute of Technology, 1970.

1414.70

FERRIS, D.

Univ. of Exeter, Exeter (England)

Grammatical vs. lexical validity of selectional subcategories. Linguistics, 1970, 57.5-9.

Argues that selectional rules (such as ±Human, ±Proper) are more part of lexicon than of grammar. Results of questionnaire submitted to students suggests that although sentences breaking selectional rules were judged grammatical, those breaking morphophonemic rules were most often judged ungrammatical. Three refs.

1415.70
FODOR, J. A.
Troubles about actions. Synthese, 1970,21:3/4,298-319.

Discussion of Davidson's theory of meaning; necessity of incorporating mechanical procedure for pairing sentence with respresentation of its logical form. Action verbs illustrate general problem of representing force of adverbial constituent modification in notation of standard logical formalisms. Suggests distinguishing between theory of meaning and theory of truth, i.e., logical form, or placing constituent modification in metalanguage. 21 refs. - *From the author.*

1416.70
FODOR, JANET DEAN
Linguistic description of opaque contexts. Ph.D. thesis, Massachusetts Institute of Technology, 1970.

1417.70
GLADKIJ, A.V.
Academy of Sciences of the USSR, Moscow (USSR), Council on Complex Problems in Cybernetics
[Substantive background grammars and phase structure grammars] Imennye okrestnostnye grammatiki i NS-grammatiki. Nauchno-Tekh Inf, Series 2, 1969,5.22-24. In Russian.

Considers the problem of the 'comparative strength' of phrase vs. substantive background grammars as introduced by V. B. Borshchev. For any substantive background grammar an equivalent phrase structure grammar can be built effectively and at the same time any SB grammar (one with a one element basic dictionary) determines the automatic language so that there does not exist for any phrase structure grammar a substantive background grammar equivalent to it. Four refs. - *From the journal abstract.*

1418.70
GLADKIJ, A. V.; MEL'ČUK, I. A.
Academy of Sciences of the USSR, Moscow (USSR), Council on Complex Problems in Cybernetics
Tree grammars (Δ grammars). Proceedings of the international conference on computational linguistics, 1-4, September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 1. 7 p.

Introduction of Δ grammars, which process trees (graph theory), not strings, à la Chomsky. These trees are dependency trees, representing surface and deep structure and semantics.

1419.70
GONZALEZ, ANDREW PAMPANGAN
Outline of a generative semantic description. Ph.D. thesis, Univ. of California, Berkeley, 1970.

1420.70
GREENE, JUDITH
Rationalists and empiricists. Times Lit Suppl, 23 July 1970, 3569.833-835.

Discussion of views of Skinner and Chomsky as, respectively, empiricist vs. rationalist approaches to psychological study of language. Definitions of language, acquisition, kernels and transformations, competence and performance. Ambiguities, misunderstandings and inadequacies of Chomsky's theory; relevance of theory for psychology.

1421.70

GUMENIK, WILLIAM E.; DOLINSKY, RICHARD
Univ. of Toledo, Toledo, Ohio

Connotative meaning of sentence subjects as a function of verb and object meaning under different grammatical transformations. J Verbal Learn & Verbal Behav, 1969, 8:5.653-657.

Sentence subjects rated on good-bad and active-passive semantic differential scales. Sentences had good or bad predicate verbs and good or bad object nouns and were presented as active, passive, question, or negative sentences. Results discussed in terms of congruity theory and transformational theory. – *From the journal abstract.*

1422.70

HARMAN, GILBERT
Princeton Univ., Princeton, N.J.

Deep structure as logical form. Synthese, 1970, 21:3/4.275-297.

Replacement of traditional subject-predicate form with predicate plus argument(s); introduction of quantifiers and variables. Result is improved analysis of backwards pronominalization, passivization, extraposition, infinitival clause separation, action and causal sentences, entailment. Discussion of propositional attitude, truth characterization, and pronominalization problems. 17 refs. – *From the author.*

1423.70

HAVEL, IVAN
Czechoslovakian Academy of Sciences (ČSAV), Prague (Czechoslovakia), Mathematics Institute

A note on one-sided context sensitive grammars. Kybernetika, 1969, 5:3.186-189. In English; summary in Czech.

Proof that one-sided context sensitive grammars can generate languages not generated by any context free grammar. Five refs. – *From the journal abstract.*

1424.70

HENY, FRANK WARRINGTON

Semantic operations on base structures. Ph.D. thesis, Univ. of California, Los Angeles, 1970.

1425.70

HILL, ARCHIBALD A.
Univ. of Texas, Austin, Tex.

The hypothesis of deep structure. Stud Linguist, 1970, 24:1.1-16.

Author's objections to the idea of deep structure as formulated by Chomsky, Katz and transformational grammarians in general and his ideas on 'internal symbolic activity'.

1426.70

HOFMANN, T. R.
Univ. of Ottawa, Ottawa (Canada)

Performatives are complementizers. 20 p.

Extended notion of complementizer applied to the description of relative clauses to solve some old problems and discover new types of relative clauses. Leads to a language-independent definition of such clauses. Suggested hypothesis that performatives which Ross introduced as superordinate understood clauses are complementizers. (Edited transcript of a paper presented to the Canadian Linguistic Association, Winnipeg, 12 July 1970.) – *From the author.*

1427.70

HUDDLESTON, RODNEY

Univ. of Queensland, Queensland (Australia), Dep. of English

Some remarks on case grammar. Linguist Inq, 1970, 1:4.501-511.

Discussion of Fillmore's views of subject having to do with thematic rather than semantic structure; cases as discrete non-complex symbols; each case relationship occurring only once in simple sentence. 20 refs. – *From the author.*

1428.70

IBRAHIM, MUHAMMAD HASAN

A study of gender. Ph.D. thesis, Princeton Univ., 1970.

1429.70

INOUE, KENZŌ

Fujitsu Ltd., Kamikodanaka, Kawasaki (Japan)

[Right precedence grammars] Migi-jun-i bun-pô. Jôhô Shori, 1970, 11:8.449-456. In Japanese.

Discussion of revised definition of precedence grammar as only right branching. Could cover more languages and improve parsing speed over older right and left branching grammar. Method to oversome restrictions for right branching precedence grammars is discussed.

1430.70

JOHNSON, C. DOUGLAS

Formal aspects of phonological description. Ph.D. thesis, Univ. of California, Berkeley, 1970.

1431.70

JOHNSON, C. DOUGLAS

Univ. of California, Berkeley, Calif., Dep. of Linguistics, Phonology Lab.

Formal aspects of phonological description. Project on linguistic analysis reports, 2nd series, No. 11. POLA supported in part by Grant GS-2386, by National Science Foundation and Contract F-30602-69-C-0055, by Air Force. Ph.D. thesis rev. September 1970, 144 p.

Examination of mechanism for characterizing sets of phonological strings including contextual and morphonemic structural considerations; discussion of schematic notation and problem of irregularity. Formal introduction of rules; iterative vs. simultaneous rules, right vs. left linear rules. Prosodic features. 54 refs. – *From the author.*

1432.70

JOSHI, ARAVIND K.

Univ. of Pennsylvania, Philadelphia, Pa.

Properties of formal grammars with mixed types of rules and their linguistic relevance. Proceedings of the interanational conference on computational linguistics, 1-4 September, 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 47. 28 p.

No single style of rules for formal grammars can represent all aspects of language structure naturally, therefore grammars with mixed types of rules studied. Strings in the language of one mixed grammar mapped into those of another mixed grammar. Linguistic relevance of above concepts. 19 refs.

1433.70
KARTTUNEN, LAURI
Univ. of Texas, Austin, Tex.
Discourse referents. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 70. 38 p.

Basic examination of coreference constraints between two noun phrases; raises questions to be answered before more general problems of pronominalization or relativization can be considered. 10 refs.

1434.70
KARTTUNEN, LAURI
Problems of reference in syntax. Ph.D. thesis, Indiana Univ., 1969.

1435.70
KASHER, ASA
Hebrew Univ., Jerusalem (Israel), Applied Logic Branch
The logical status of indexical sentences. Scientifi-9, AF0SR-70-2090TR. Contract F61052-68-C-0036. May 1970, 30 p. [NTIS: AD 710 299].

Contains the introduction and chapter summaries of a doctoral thesis that examines the linguistic phenomenon of the indexicality of expressions in natural languages. A distinction is made between linguistic phenomena and non-linguistic phenomena that have a linguistic aspect. A number of metalanguages (syntactic, semantic, and pragmatic) are developed for the investigation of indexicality (i.e., context dependency), and relevant concepts are introduced and explored. The nature of pragmatic languages is examined from semiotic, logical, and philosophic points of view. It is shown that every sentence in most if not all natural languages is indexical. The main reasons for indexicality are occurrences of deictic, of quantificational, and of theoretical expressions. The indexicality of sentences cannot be removed by linguistic clarifications. – *From the 'R&D Reports' abstract.*

1436.70
KIMBALL, JOHN P.
Categories of meaning. Ph.D. thesis, Massachusetts Institute of Technology, 1970.

1437.70
KIPARSKY, PAUL
Massachusetts Institute of Technology, Cambridge, Mass., Dep. of Modern Languages and Linguistics
Semantic rules in grammar. In: Hreinn BENEDIKTSSON, ed., The Nordic languages and modern linguistics (Reykjavík: Vísindafélag Íslendinga, 1970), 262-285.

Considerations of orthodox and generative semantic theories. Supports claim that logic is inadequate model of semantics for natural language. 7 refs.

1438.70
KOSTOLANSKÝ, EDUARD
Slovakian Academy of Sciences (SAV), Bratislava (Czechoslovakia), Computer Technology Institute
Comments on effective and unambiguous context free languages. Kybernetika, 1969, 5:3.181-185. In English; summary in Czech.

Definition of concept of effective language and grammar. Sufficient condition found for effectiveness of language and comments given as to unambiguous and effective context free languages. Six refs. – *From the journal abstract.*

1439.70
KURODA, S.-Y.
Remarks on the notion of subject with reference to words like 'also', 'even', or 'only' illustrating certain manners in which formal systems are employed as auxiliary devices in linguistic descriptions. Annu Bull (Res Inst Logop Phoniat, Univ Tokyo), 1969, 3(Part I):111-130; 1970, 4(Part 2):127-152.

1440.70
KUSAWAGI, YUTAKA
The hypothetico-deductive approach in grammar: A consideration of basic methodological principles and some formalism applicable to clause structure, with a detailed practical illustration. Ph.D. thesis, Georgetown Univ., 1970.

1441.70
LAMENDELLA, JOHN THOMAS
Long term memory, conceptual structure and a theory of generative semantics. Ph.D. thesis, Univ. of Michigan, 1969, 113 p. Diss Abstr Int, 1970, 31:2:645-A. [UM: 70-14,570 Xerox$6.00 MF$4.00]

1442.70
LEE, P. GREGORY
Subjects and agents. Ph.D. thesis, Ohio State Univ., 1970.

1443.70
LEIBOWITZ, ROBERT
Semantic structure. Ph.D. thesis, Indiana Univ., 1969.

1444.70
LEVY, LEON SHELDON
Generalized local adjunction and replacement in adjunct languages. Ph.D. thesis, Univ. of Pennsylvania, 1970, 140 p. [NTIS: AD 710 286]
Some adjunct grammars using two basic operations, adjunction and replacement, studied as formal languages. Adjunction corresponds linguistically to the endocentric formation of constituents; replacement is a form of substitution similar to a phrase structure rewrite rule. These operations are studied separately and jointly. – *From the 'R&D Reports' author abstract.*

1445.70
LIBERMAN, PHILIP
Univ. of Connecticut, Storrs, Conn., Dep of Linguistics
Towards a unified phonetic theory. Linguist Inq, 1970, 1:3:307-322.
Unified phonetic theory should be structured in terms of anatomic, physiologic, and neural mechanisms of speech production and perception. Influential factors include existence of acoustic feature detectors, articulatory maneuvers that are easy to effect or produce stable acoustic outputs, and efferent sensors of physiologic events. These factors may be bases for phonologic features which epitomize mechanisms of vocal apparatus and auditory perceptual system. 42 refs. – *From the author.*

1446.70
LYONS, LEONARD
Univ. of Chicago, Chicago, Ill.
Analytic/synthetic and semantic theory. Synthese, 1970, 21:3/4:439-448.
Simplification of Katz's theory of analytic/synthetic distinction for natural languages.

Criticisms include inadequate definition of antonymy operator and defective accounts of negation, entailment and indeterminable sentences. – *From the author abstract.*

1447.70
MANEA, MARIA MANOLIU
Univ. of Bucharest, Bucharest (Romania)
[Some reflections on the place of voice in a transformational grammar] Quelques réflexions sur la place de la voix dans une grammaire transformationelle. Rev Roum Linguist, 1970, 15:5.487-493. In French.

Discussion of voice as element dominated by auxiliary; implications for verb categorization, passive and reflexive, and pronominalization. – *From the author summary.*

1448.70
MEL'ČUK, I. A.; ŽOLKOVSKIJ, A. K.
Towards a functioning 'meaning-text' model of language. Linguistics, 1970, 57.10-47.

Dynamic model of synthetic semantics emphasizing linguistic paraphrasing. Lexico-syntactic structures and various semantic notions discussed as background information. Details of paraphrasing system -- dictionary, lexical functions, substitutes, parameters, grammatical paraphrasis. Linguistic areas to profit from this new model. 16 refs. (See 893, *L&A* 3.)

1449.70
MENZEL, PETER
Propositions, events, and actions in the syntax of complementation. Ph.D. thesis, Univ. of California, Los Angeles, 1969, 221 p. Diss Abstr Int, 1970, 31:2.744. [UM: 70-14,306 Xerox$10.15 MF$4.00].

1450.70
MIKO, F.
[Some transformations generating adverbial expressions] Niektoré transformácie s adverbiálnou 'nástupnickou' platnosťou. Jaz Čas, 1970, 21:11-21. In Slovak.

Chomsky's assumption that syntactic homonymy main criterion of transformational origin of certain sentence constructions supported by author's demonstration of transformational origin of sentence constructions only where two syntactic functions cumulate. Examples of transformational rules for derivation of constructions in which adverbial phrase of one type (e.g., local) derived from original clause of a different type (e.g., temporal); result called succession phrase.

1451.70
MOYNE, J.A.
IBM Corp., Boston, Mass., Boston Programming Center
An introduction to transformational grammars. Int J Comput Math, 1968, 2:2.169-181.

A brief tutorial in transformational generative grammar oriented toward computer programmers. 24 refs.

1452.70
MURAKI, MASATAKE
Presupposition, pseudo-clefting nd thematization. Ph.D. thesis, Univ. of Texas, Austin, 1970.

1453.70

NAVRÁTIL, EMIL

Context free grammars with regular conditions. Kybernetika, 1970, 6:2.118-126. In English; summary in Czech.

ℰ free CF grammars with regular conditions generate exactly the class of context sensitive languages. Four refs. - *From the journal abstract.*

1454.70

NEBESKÝ, L.

A note on functors. Prague Bull Math Linguist, 1970, 13.7-8.

Demonstration by formal example of some nonself evident aspects of H. B. Curry's concept of functor.

1455.70

NOVOTNÝ, M.

On simple and short configurations. Prague Bull Math Linguist, 1970, 13.2-6.

On the basis of two types of configurations, some types of languages defined and their equivalence demonstrated: language of depth 1 and finitely generated language; or language of strong depth 1 and strongly finitely generated language. Relation of these types of languages to the language defined by Chomsky pointed out.

1456.70

OLLER, JOHN W., JR.; SALES, B. DENNIS; HARRINGTON, RONALD V.

Univ. of Rochester, Rochester, N.Y., Dep. of Languages and Linguistics

Toward consistent definitions of some psycholinguistic terms. Linguistics, 1970, 57.48-59.

Identifies inconsistencies and vagueness in a few psycholinguistic terms used in current transformational theory -- e.g., competence, performance, the ideal speaker-listener, grammaticality. 16 refs.

1457.70

ORAVEC J.

[A symposium on algebraic linguistics] Sympozium o algebraickej lingvistike. Slov reč, 1970, 35.248-250. In Slovak.

A report on the international symposium on algebraic linguistics held at Smolenice, February 10-13, 1970. The symposium was organized by Ľudovít Štúr Institute of Linguistics of the Slovak Academy of Sciences.

1458.70

PARSONS, TERENCE

Univ. of Illinois at Chicago Circle, Chicago, Ill.

Some problems concerning the logic of grammatical modifiers. Synthese, 1970, 21:3/4.320-334.

Part of larger work on English semantics. Discussion of problems of representing grammatical modifiers in logical notation and applying adjectives to 'that'-clauses and gerundive-clauses. Criticism of Riechenbach and proposal of theory where grammatical modifiers are represented by operators added to first-order predicate calculus. 21 refs. - *From the author abstract.*

1459.70

PARTEE, BARBARA HALL
Univ. of California, Los Angeles, Calif.

Opacity, coreference, and pronouns. Synthese, 1970, 21:3/4.359-385.

Discussion of problem of uniform treatment of relation between pronouns and antecedents, respecting both linguistic notion of coreference and philosophical notion of pronouns as variables. Coreference can be extended to many cases where antecedent is non-referential; pronouns-as-variables approach is more general; 'pronouns of laziness' resist both approaches. 28 refs. (Earlier versions of paper presented at Claremont Philosphical Discussion Group, UCLA Linguistics Colloquium, IBM Watson Research Center, IBM Systems Development Division at Endicott, and Princeton University. - *From the author abstract.*

1460.70

PETERS, STANLEY
Univ. of Texas, Austin, Tex.

The use of context sensitive rules in immediate constituent analysis. Proceedings of the international conference on computational linguistics, 1-4 September, 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 45. 16 p.

A way of using context sensitive rules in the description of context free languages to provide greater economy of description and analysis. Four refs.

1461.70

PIAGGIO, L.

[Determination of the number of scales in the semantic differential] Bestimmung der Skalenzahl im semantischen differential. Probl Ergeb Psychol, 1969, 31.5-13. In German.

Discussion of problem of curves allowing delimitation of errors consequent to study of correlation between two concepts (verbal and nonverbal stimuli) in the course of analysis of factorial system of concepts. Eight refs. - *Transl. from the 'Bull Signal 524 (Sci Lang)' abstract.*

1462.70

PIKE, KENNETH L.; LOWE, IVAN
Univ. of Michigan, Ann Arbor, Mich., Dep. of Linguistics

Pronominal reference in English conversation and discourse -- a group theoretical treatment. Folia Linguist, 1969, 3:1/2.68-106.

Applies finite permutation groups to the study of pronominal reference in converations between three individuals, in order to arrive at a formulation which is both sociolinguistically relevant and capable of displaying sociolinguistic phenomena explicity and generatively as well.

1463.70

POSTAL, PAUL M.
IBM Corp., Yorktown Heights, N.Y., Thomas J. Watson Research Center

On coreferential complement subject deletion. Linguist Inq, 1970, 1:4.439-500.

Equi-NP deletion rule fragmented into two operations: cyclical feature marking 'doom marking', and post- or last-cyclical 'doom erasure'. Complement subject deletion depends on previous application of pronominalization. Proposal of universal deletion constraint. 14 refs. - *From the author.*

1464.70
POSTAL, PAUL M.
IBM Corp., Yorktown Heights, N.Y., Thomas J. Watson Research Center
Crossover phenomena. Transatlantic series in linguistics. New York: Holt, Rinehart and Winston, 1971, ix, 262. SBN 03-085230-7 (paperback). $4.95.

Extensive investigation of hitherto largely hidden facts about English pronominalization involving constraints on transformational rules which reorder nominal elements. After examining a mass of such restrictions, the author ultimately arrives at a partial specification of a principle of grammar which explains them, considering along the way the connections of this principle with many aspects of English grammar and its relations to universal grammar. 51 refs. – *From the author preface. (See also 170, L&A* 1.)

1465.70
SADOCK, JERROLD MURRAY
Hypersentences. Ph.D. thesis, Univ. of Illinois, 1969.

1466.70
SANDEWALL, ERIK J.
Stanford Univ., Stanford, Calif., Dep. of Computer Science, Stanford Artificial Intelligence Project
Representing natural-language information in predicate calculus. CS-166, AIM-128. Contract SD-183. July 1970, 27 p. [NTIS: AD 713 841].

A set of general conventions are proposed for representing natural language information in many-sorted first order predicate calculus to provide a testing ground for existing theorem-proving programs. – *From the 'R&D Reports' author abstract.*

1467.70
SANGSTER, R.
The linguistic thought of Roman Jakobson. Ph.D. thesis, Indiana Univ., 1970.

1468.70
SAVICKÝ, N.
[On some methodological problems of generative grammar] O nekotoryx metodologičeskix problemax porožd̆ajuščej grammatiki. Česk Rusist, 1970, 15.151-155. In Russian.

Early works of transformational grammarians Katz and Postal (especially 'An integrated theory of linguistic description') examined to determine justification for impression that concepts of theoreticians of generative grammar are vague and intuitive.

1469.70
SMITH, STEVEN B.
Generative semantics. Ph.D. thesis, Univ. of California, Los Angeles, 1970.

1470.70
SPA, JAAP
Univ. libre d'Amsterdam, Amsterdam (The Netherlands)
[Some problems concerning the semantic omponent of transformational grammar] Quelques problèmes concernant la composante sémantique de la grammaire transformationnelle. inguistique, 1970, 6:1.23-38. In French.

Problems of selectional estrictions of lexical elements, integration of selectional restrictions into syntactic or semantic component, and demarcation between syntactic

and semantic markers; non-essential character of syntactic-semantic differentiators. 17 refs. (Paper presented at 27th Flemish Congress of Philologists, Brussels, 8-10 April 1969.) – *From the author summary.*

1471.70

STACHOWITZ, ROLF ARMIN

Definition of the term 'discontinuous constituents' in context free phrase structure grammars. Ph.D. thesis, Univ of Texas, Austin, 1969. 1472.70

STECHOW, ARNIM VON

[Aspects of the evaluation of generative grammars] Aspekte zur Bewertung von generativen Grammatiken. Linguist Ber, 1970, 9.18-28. In German.

Discussion of current opinions on the evaluation of generative grammars showing how some generally accepted ones untenable when syntactic and semantic problems differentiated. Criticism of Chomsky's theories of intuition and acquisition. Superiority of transformational grammar over phrase structure grammars questioned.

1473.70

SUCI, GEORGE J.

Cornell Univ., Ithaca, N.Y.

Relations between semantic and syntactic factors in the structuring of language. Lang & Speech, 1969, 12:2.69-79.

Discussion of 'probe-latency technique' for assessing syntactic relations of linguistic inputs. The 'question technique' for semantic processing. Study confirms independence of semantic from syntactic processes. Eight refs. – *From the journal abstract.*

1474.70

SZABÓ, ZOLTÁN

Some problems of word formation within the framework of a generative grammar. Proceedings of the international conference on computational linguistics, 1-4 September, 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 59. 4 p.

Grammatical and lexicological derivatives, with special attention to degree of productivity of some cases. Examples from Hungarian.

1475.70

TAI, JAMES HAU-Y

Coordination reduction. Ph.D. thesis, Indiana Univ., 1970, 228 p. Diss Abstr Int, 1970, 31:3.1254-A-1255-A. [UM: 70-14,973 Xerox$10.35 MF$4.00].

1476.70

THOMPSON, SANDRA ANNEAR

On relative clause structures in relation to the nature of sentence complexity. Ph.D. thesis, Ohio State Univ., 1969, 123 p. Diss Abstr Int, 1970, 31:2.748-A. [UM: 70-14,106 Xerox$6.00 MF$4.00].

1477.70

TRYBULETS, A.

[A generalization of the concept of derivative breakdown - after O.S. Ku[illegible]] Obobščenija ponjatija proizvodnogo razbienija - v smysle O. S. Kulagina. Nauchno-Tekh Inf, Series 2, 1969, 5.18-21. In Russian.

Examination of vocabulary breakdowns into classes algebraically determined on basis of language. The operation of vocabulary breakdown introduced is a generalization of O. S. Kulagina's concept of derivative breakdown. Linguistic significance of this operation considered. Four refs. – *From the journal abstract.*

1478.70
TULLAI, GERALD
A study in the development of the methodology of linguistic science. Ph.D. thesis, Indiana Univ., 1970.

1479.70
TURNER, PAUL R.
Univ. of Arizona, Tucson, Ariz.
Grammar for the speaker and hearer. Linguistics, 1970, 57.93-99.

Calls for modification of Chomsky-Halle generative grammar to emphasize the importance of phonological hierarchy as a part of the speaker-hearer's competence. Test results from a modified and an unmodified version of dictation to 57 students strengthen argument for modified version. Six refs.

1480.70
UNGEHEUER, GEROLD
Univ. Bonn, Bonn (Germany), Institut für Kommunikationsforschung und Phonetik
[Paraphrase and syntactic deep structure] Paraphrase und syntaktische Tiefenstruktur. Folia Linguist, 1969, 3:3/4.178-227. In German.

Defines paraphrase, discusses possible classifications and use as a means of attaining greater clarification and precision in linguistics and logic. Consideration of paraphrase in longer stretches of speech than sentences can extend concept of semantic deep structure. 41 refs.

1481.70
VANEK, ANTHONY LADISLAV
Subject-verb agreement. Ph.D. thesis, Univ. of Illinois, 1969, 291 p. Diss Abstr Int, 1970 31:2.748. [UM: 70-13,525 Xerox$13.13 MF$4.00].

1482.70
VAN FRAASSEN, BAS C.
Univ. of Toronto, Toronto (Canada)
Inference and self reference. Synthese, 1970, 21:3/4.425-438.

Discussion of functional self reference, liar type paradoxes, and their logical formalization.Functional self reference prevents universal application of classical logic because latter restricted to normal contexts and allows formulation of paradoxes which violate semantic restrictions and make uniform expresssion of non-truth impossible. – *From the author.*

1483.70
VASILIU, EMANUEL
Univ. of Bucharest, Bucharest (Romania), Faculty of Romanian Language and Literature
Analytic sentences in natural languages. Rev Roum Linguist, 1968, 13:5.529-539.

Discussion of inadequacies of Katz's semantic theory of analytic, contradictory, and synthetic sentences. Theory intended as reply to Carnap's theory of L-concepts and to Quine's criticisms of Carnap but found descriptively inadequate because fails to account for logical entailment, for relations between various analytic sentences and does not discuss problem of truth. 9 refs. – *From the author.*

1484.70
VASILIU, EMANUEL
The 'time category' in natural languages and its semantic interpretation. Proceedings

of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 60. 7 p.

Description of one component of author's more general method of semantic interpretation of natural languages; concerns rules of translation from language L into semantic system S, and new system, S_1, which fulfills the imposed conditions on translatability in S.

1485.70

VASILIU, LAURA

Academy of the Romanian Socialist Republic, Bucharest (Romania), Institute of Linguistics

Some grammatical and semantic remarks on reflexive constructions. Rev Roum Linguist, 1969, 14:4.365-372.

Establishment of distinction between objective reflexive and reciprocal meaning of some constructions with reflexive pronoun. Former defined syntatically by application of transformation to underlying structure when agent is referentially identical with direct object. Constructions of form ReflVerb imply double homonymy between objective reflexive and reciprocal reflexive; reciprocal reflexive obtained by transformation and intrinsically reciprocal reflexive. - *From the author summary.*

See also, 1247, 1486, 1492, 1497, 1503, 1505, 1509, 1512, 1521, 1525, 1531, 1535, 1539, 1545, 1546, 1548, 1550, 1551, 1552, 1553, 1556.

LANGUAGES

Specific language studies within the scope of automation.

1486.70

AKMAJIAN, ADRIAN

Aspects of the grammar of focus in English. Ph.D. thesis, Massachusetts Institute of Technology, 1970.

1487.70

ALLÉN, STURE

Univ. of Göteborg, Göteborg (Sweden)

Vocabulary data processing. In: Hreinn BENEDIKTSSON, ed., The Nordic languages and modern linguistics (Reykjavík: Vísindafélag Íslendinga, 1970), 235-261.

Analysis of vocabulary system of present day Standard Swedish using Datasaab (D21) computer. Discussions of operative units, lexical treatments, quantitative data. Several charts and diagrams from project. 10 refs.

1488.70

BABCOCK, WILLIAM R.

Synthetic vowel categorization by speakers of several German dialects. Ph.D. thesis, Univ. of Rochester, 1969, 197 p. Diss Abstr Int, 1970, 31:4.1781A. [UM: 70-17,861 Xerox$9.00 MF$4.00].

1489.70
BARBAUD, PHILIPPE
[Transformational syntax of a type of compound word in French] Syntaxe transformationnelle d'un type de mot-composé en français. M.A. thesis, Univ. of Montreal, 1970. In French.

1490.70
BARNETOVÁ, V.
[Controversial questions of the so called substitutional palatalization in the generative description of verbal derivation] Sporné otázky tzv. substitučního měkčení v generativním popisu deverbální derivace. Česk Rusist, 1970, 15.68-74.

Some questions which arise in the description of the morphophonological processes characteristic of the imperfectivization of the Russian verb, especially the question of free consonantal alternations with disjunct alternatives in the position of the final vowel of the stem. Outline of the conditions of substitutional palatalization. Necessity of taking account of the other word units of the derivational sequence.

1491.70
BEAULIEU, ALAIN; BAUDOT, JEAN
[Syntagmatic structure of the nominal group in contemporary written French] Structure syntagmatique du groupe nominal en français ecrit contemporain. Collaborative M.A. thesis, Univ. of Montreal, 1970. In French.

1492.70
BELL, A. G.
Univ. of Auckland, Auckland (New Zealand)
Aspects of valency and dependency grammar. Te Reo, 1969, 12.64-71.

Role of the subject in the dependency grammar for German developed by G. Helbig and others at the Karl Marx Univ. in Leipzig. 14 refs.

1493.70
BENEDIKTSSON, HREINN, ed.
The Nordic languages and modern linguistics: Proceedings of the international conference of Nordic and general linguistics, Univ. of Iceland, Reykjavik, July 6-11, 1969. Occasional publications Vísindafélag Íslendinga (Societas scientiarum Islandica), 39. Reykjavík: Vísindafélag Íslendinga, 1970, 616 p.

Conference program and list of participants; 10 plenary reports, 20 section papers, and discussions. Themes are history of Nordic languages and the principles of diachronic linguistics, Nordic dialects and structural dialectology, current linguistic approaches, and modern linguistic theory of Nordic languages.

1494.70
BENEŠOVÁ, EVA
Predicate modality in the generative description of Czech. Prague Bull Math Linguist, 1970, 13.43-63. In English with summary in Russian.

Problems of proper modal verbs connected with objective modality (predicate modality) described in the framework of a functional multilevel generative model of Czech.

1495.70
BENNETT, DAVID C.
A stratificational description of English prepositions. Ph.D. thesis, Yale Univ., 1970.

1496.70
CHAMBERS, JOHN KENNETH
Focused noun phrases in English syntax. Ph.D. thesis, Univ. of Alberta, 1970.

1497.70
CHIȚORAN, D.
Univ. of Bucharest, Bucharest (Romania), Faculty of Germanic Languages
The semantic field of English factitive verbs, Rev Roum Linguist, 1969, 14:4.333-341.

Use of structural approach in search for semantic paradigms. Study of relations among lexical items on syntagmatic and paradigmatic axes. Correlation established between mutually exclusive occurrence of lexical items belonging to same grammatical class and some semantic feature which they have in common; delimitation of semantic field. Reaction of lexical items in semantic field to grammatical operations and collocational consideration allow abstraction of semantic features of the field and of each individual item. This enables componential analysis of meaning of semantic field and its elements. 15 refs. – *From the author summary.*

1498.70
CHVANY, CATHERINE V.
Massachusetts Institute of Technology, Cambridge, Mass.
The Russian verb 'byt' ('to be') -- syntactic answers to some perennial questions. 4 p.

Problems: (1) What makes 'byt' come and go? Deletion under identity with ∃ in a presupposed S? Inalienable possession? Truth value insistence? Cooccurrence with (other?) quantifiers? (2) Nominative alternating with genitive in negative: if 'byt' is transitive-intransitive, should genitive subject marking really be genetive theme marking? (Paper presented to the New England Linguistic Society, Cambridge, Mass., 7-8 November 1970.)

1499.70
D'AOUST-BLAIS, DENISE
[Transformational study of some syntactic aspects of the French speech of Montreal] Etude de quelques aspects syntaxique du parler français de Montréal selon le modèle de la grammaire transformationnelle. M.A. thesis, Univ. of Montreal, 1970. In French.

1500.70
DASWANI, CHANDER J.
Adverbials of time and location in English: A study in generative semantics. Ph.D. thesis, Cornell Univ., 1969.

1501.70
DELL, FRANÇOIS
[Topics in French phonology and derivational morphology] Les règles phonologiques tardives et la morphologie dérivationelle du français. Ph.D. thesis, Massachusetts Institute of Technology, 1970. In French.

1502.70
DIETRICH, RAINER
[A formal description of the strong and irregular verbs of contemporary German] Eine formale Beshreibung der starken und unregelmässigen Verben der deutschen Gegenwartssprache. Linguistische Arbeiten des Germanistischen Instituts und des Instituts für Angewandte Mathematik der Univ. des Saarlandes, Arbeitsbericht 9. June 1970, 40 p. In German.

Results of a preliminary analysis of the formal structure of 193 German strong and irregular verbs and the feasibility of a computer analysis of these verbs.

1503.70

DUGAS, A.; DANSEREAU, J.; GRAVEL, C.

Univ. of Quebec, Montreal (Canada)

[Elementary description of French syntax, based on transformational theory (revised)] Description syntaxique élémentaire du français inspirée des théories transformationnelles (version revisée et corrigée). Rapport interne 23. Grant 69-0464. August 1970, 85 p. In French with summaries in French and English.

Revised explanation of simple sentences and embedding of relatives and completives. Partial description of pronominal adjectives, noun phrases as complements, and a restricted set of infinitive clauses. More elaborate descriptions of noun phrases, modals, verb subcategorization, the definite article, and adverbs. 46 refs. – *From the author abstract.*

1504.70

DUGAS, DONALD GERARD

Some functions of 'de' in French: A case analysis. Ph.D. thesis, Univ. of Michigan, 1969.

1505.70

DURHAM, STANTON P.

The computer in the reconstruction of a proto-diasystem: Franco-Provencal. 2 vols. Ph.D. thesis, Univ. of Michigan, 1969, 556 p. Diss Abstr Int, 1970, 31:2.741A. [UM: 70-14,505 Xerox$25.20 MF$7.05].

1506.70

EGAWA, KIYOSHI

National Language Research Institute, Tokyo (Japan)

[A system of automatic segmentation for Japanese text]. Math Linguist, 1969, 51.17-22. In Japanese.

Text by Chinese characters and kana letters; word recognition; discrimination of kinds of letters; letter environment; processing of a letter string.

1507.70

ELLIOT, CHARLES EMMETT III

Some problems in the referential analysis of English. Ph.D. thesis, Univ. of Michigan, 1970.

1508.70

EZURE, TAKASHI

Mathematical Linguistic Society of Japan, Tokyo (Japan)

Survey of Chinese characters in a Chinese classics textbook. Math Linguist, 1970, 52.41-54. In Japanese.

Survey of Chinese characters in Japanese high school textbooks. Difficulties in handling unknown characters and establishing basic lists for students. Comparison of actual characters and those in official lists. Concludes it is best to replace unknown characters with synonymous known ones.

1509.70

FODOR, J. A.

Massachusetts Institute of Technology, Cambridge, Mass., Dep. of Psychology

Three reasons for not deriving 'kill' from 'cause to die'. Linguist Inq, 1970, 1:4.429-438.

Discussion of cases where words are related to defining phrases in ways similar to those in which surface structures are related to transformational sources. Inadequacy of rule that pro-forms must refer to material actually present in surface structure. Two refs. – *From the author.*

1510.70

FRANTZ, DONALD GENE

Toward a generative grammar of Blackfoot (with particular attention to selected stem formation processes). Ph.D. thesis, Univ. of Alberta, 1970.

1511.70

GLISSMEYER, GLORIA

An analysis of Hawaii English syntax. Ph.D. thesis, Univ. of Hawaii, 1970.

1512.70

GRADY, MICHAEL WILMONT

Syntax and semantics of the English verb phrase. Ph.D. thesis, Stanford Univ., 1969.

1513.70

HAJIČOVÁ, E.; PANEVOVÁ, J.; SGALL, P.

Recursive properties of tense in Czech and English. Prague Bull Math Linguist, 1970, 13.9-42. In English; summary in Russian.

Comparison of linguistic meaning of Czech and English verbal tenses in the framework of a generative stratificational system based on dependency syntax.

1514.70

HAYON, YEHIEL

Relative clauses in modern Hebrew. M.A. thesis, Univ. of Texas, Austin, 1968, 90 p.

Relative clauses with verbal predicates or with nonverbal predicates, word order in relative clauses and various related questions in transformational Hebrew linguistics. 23 refs.

1515.70

HIDALGO, CESAR A.

A tagmemic-transformational analysis. Ph.D. thesis, Georgetown Univ., 1969.

1516.70

HORECKÝ, J.

[An outline of the phonematic structure of morphemes] Náčrt fonematickej štruktúry morfém. Slov Reč, 1969, 34.137-147. In Slovak.

Phonematic structure of Slovak stem morphemes described as an ordered sequence of 40 formation rules indicating which distinctive features (or phonemes characterized by these features) can or cannot occur in certain conditions. Operation proceeds from the vocalic center of the morpheme to its initial and final consonantal members.

1517.70
IKEGAMI, YOSHIHIKO
The semological structure of the English verbs of motion -- a stratificational approach. Ph.D. thesis, Yale Univ., 1969.

1518.70
ISHIWATA, TOSHIO; SAITO, HIDENORI; KIMURA, SHIGERU
National Language Research Institute, Tokyo (Japan)
[A Japanese sentence segmentation program] Gengo tan'i bunkatsu jidôka no kenkyu. Math Linguist, 1969, 50.24-38. In Japanese; summary in English.

Program to segment automatically a Japanese sentence of the usual run-on style. Segmentation is carried out by a table look up method with verification of syntactic well-formedness.

1519.70
JACKENDOFF, RAY S.
Rand Corp., Santa Monica, Calif.
On some questionable arguments about quantifiers and negation. P-4481. October 1970, 39 p. [NTIS: AD 714 330].

Arguments for hypothesis that quantifiers such as 'all' and 'each' do not originate in the noun phrases in which they occur on the surface, but rather that they are represented in deep structure as main verbs of higher sentences. - *From the 'R&D Reports' author abstract.*

1520.70
JACKENDOFF, RAY S.
Some rules of semantic interpretation for English. Ph.D. thesis, Massachusetts Institute of Technology, 1969.

1521.70
KAYNE, RICHARD S.
The transformational cycle in French syntax. Ph.D. thesis, Massachusetts Institute of Technology, 1969.

1522.70
KIEFER, FERENC
The reconstruction of the notion of agglutination in the framework of generative grammar (preliminary version). Comput Linguist, 1969, 8.25-36.

Using Hungarian noun inflection, redefines agglutination with respect to Hungarian only. Three refs.

1523.70
KISSEBERTH, CHARLES W.
Univ. of Illinois, Urbana, Ill., Dep. of Linguistics
On the functional unity of phonological rules. Linguist Inq, 1970, 1:3.291-306.

Assertion that unity of a set of rules may not rest upon similarity of their structural descriptions but on similarity of function, using examples from Yawelmani lack of word-final consonant clusters and lack of triliteral clusters. Rules of vowel epenthesis and consonant reduction conspire against consonant clustering, taking as input a string with three consonants and giving as output a string which no longer contains such a sequence. Theoretical implications of functionally equivalent vs. structurally related rules are that significant linguistic generalizations and simplicity may be independent.

Such rules are relatively or absolutely obligatory with respect to derivational constraints. Six refs. – *From the author.*

1524.70
KONEČNÁ, D.; NEBESKÝ, L.
[A representation of case meanings in present day Czech] Jeden záznam pádových významů současné češtiny. Slovo Slovest, 1970, 31.223-226. In Czech; summary in German.

From the point of view of semantics, case regarded as an auto-semantic unit. With case and with prepositions requiring that particular case, common expressive semantic feature can always be found. Cases represented as different degrees of integration of two realities.

1525.70
KŘÍŽKOVA, H.
[A marginal note on one-member nominal sentences] Na okraj jednočlenných nominálních vět. Česk Rusist, 1970, 15.164-170. In Czech; summary in Russian.

Nominative substantival one-member sentences analyzed and relation to two-member sentences investigated. Critical examination of Mika's assumption that in generating such sentences category of predicate does not disappear but shifts to sphere of subject.

1526.70
KŘÍŽKOVÁ, H.
[Relative clauses, attribute and contextual articulation in Russian] Relativní věty, atribut a kontextové členění v ruštině. Česk Rusist, 1969, 14.208-213. In Czech; summary in Russian.

Analysis of relative clauses in contemporary Russian. Elementary rules for creation of relative clauses, restrictive and non-restrictive, formulated on the basis of contextual articulation of utterances.

1527.70
LAZEWNIK, GRAINOM
New York Univ., New York, N.Y.
Construction of an algorithm for stem recognition in the Hebrew language. Hcb Comput Linguist, 1970, 2.84-101.

Problems and objectives, Hebrew morphology, the computer and morphology, the construction of a reference dictionary, noun classification, verb classification. Stress on use of computer to further scholarly work.

1528.70
LEBOFSKY, DENNIS S.
A study of the Philadelphia dialect. Ph.D. thesis, Princeton Univ., 1970.

1529.70
LEKAWATANA, PONGSRI
Verb phrases in Thai: A study in deep-case relationships. Ph.D. thesis, Univ. of Michigan, 1970.

1530.70
LIGHT, RICHARD LEE
Syntactic structures in a corpus of non-standard English. Ph.D. thesis, Georgetown Univ., 1969.

1531.70
Lunde Gordon, Marta
Univ. of Texas, Austin, Tex.
On the so-called neuter article in Spanish. 10 p.

Traditional classification of 'lo' as an article not justified. Substantial evidence that it is a pronoun, and that phrases traditionally analyzed as neuter article plus substantivized adjective are instead pronoun plus relative clause. (Paper read at 1970 Summer Meeting of the Linguistic Society of America.) – *From the author abstract*

1532.70
McCoy, Ann
A case-grammar classification of Spanish verbs. Ph.D. thesis, Univ. of Michigan, 1970.

1533.70
Mcintosh, David
Problems in the description of adjectives in English. Ph.D. thesis, Univ. of Michigan, 1969.

1534.70
Mucke, P
Univ. of Bucharest, Bucharest (Romania). Faculty of Romanian Language and Literature
[Productivity of the French lexical core] La productivité du noyau lexical français. Rev Roum Linguist, 1969, 13-6:547-552. In French.

Discussion of use of language core in French to create new complex signs; core defined by frequency counts or linguistic analysis. Use of Gougenheim's lexical lists for Romanian, Latin, and French based on criteria of frequency, capacity to generate new derived and compound words, capacity to enter into locutions and expressions, and stability. Motivating capacity of words correlates with their independence and syntagmatic dominance, but relational abstraction is not compatible with productivity in motivation.

1535.70
Mistrík, J
[Basic syntactic-semantic processes in the Slovak language] Základné syntakticko-sémantické procesy v slovenčine. Jaz Pr, 1970, 21:87-93. In Slovak.

Three basic syntactic-semantic processes of abstraction, determination, and transformation realized in sentence as grammeme. Variations of grammemes in sentences and constructions examined.

1536.70
Murata, Saeko
Time and time-relationship in the Japanese verb system. 2 vols. Ph.D. thesis, Columbia Univ., Teachers College, 1970.

1537.70
Muto-oka, Satoko
Tokyo Woman's Christian College, Tokyo (Japan)
[Efficiency of the expression 'a except for b and c'] Math Linguist, 1969, 71:11-17. In Japanese.

Comparison of word order efficiency of Japanese and English messages to inform inhabitants of the area 'A' in which water will be cut off. No remarkable difference

discerned by the receiver as regards average numbers of words necessary to decide whether one is in X or not. – *From the journal abstract.*

1538.70
MOFFAT, ANN; SCHAEFER, BERNHARD
Forschungsgruppe LIMAS, Bonn (Germany)
The semantics of English prepositional phrases. June 1970. 20 p.

Summary of project's method for describing English prepositions for computer analysis and synthesis: example componential analysis, descriptions by semantic function; functional meaning of prepositional phrase as determined by type and use of preposition, and type of noun; idioms. 18 refs. (To appear in K. G. SCHWEISTAL, ed., [Grammar-Cybernetics-Communication] Grammatik-Kybernetik-Kommunikation. Bonn, 1970.)

1539.70
PALMER, F. R., ed.
Univ. of Reading, Reading (England). Dept. of Linguistic Science
Prosodic analysis. Language and language learning 25. London: Oxford Univ. Press, 1970. xvi, 256 p. SBN: 19-437111-5; 19-437036-4 (paperback). $4.00 (paperback).

Collection of 16 reprinted articles on prosody, including J. R. Firth, 'Sounds and prosodies' (1948); J. Carnochan, 'A study of quantity in Hausa' (1951); M. A. K. Halliday, 'Phonological (prosodic) analysis of the new Chinese syllable (modern Pekingese)'. Some authors have updated and commented on their work. Extensive bibliography.

1540.70
PAPP, FERENC
Hungarian Academy of Sciences, Budapest (Hungary). Computing Centre
[Machine processing of monolingual dictionaries with special reference to Hungarian] O mashinnoj obrabotke odnojazychnykh slovarej na materiale vengerskogo slovarja. Nauchno-Tekh Inf. Series 2. 1969. 3:20-29. In Russian.

Analytic computer processing of the Hungarian explanatory dictionary (59323 entries) described. Coding for each entry: number of stems, homonymy type, part of speech, number of meanings, stylistic marks, morphological characteristics, strong government (verbs), etymology, suffix, word length. Processing yielded several dozen tabulograms, some based on all the input data, and some on particular data (e.g., determiners belonging to particular parts of speech). Using the tabulograms possible to compare, in direct and in inverse alphabetical order, words belonging to different parts of speech, words with identical stylistic marks, stem words (i.e., without suffix), etc. Study of such word groups can bring out some grammatical patterns previously undistinguishable in the undivided stock of words; it also permits more consistent word classifications (by parts of speech, style layers, etc.). Cumulative tables contain data for various statistical studies — in particular, those concerned with word length distribution, number of meanings distribution, etc., based both on single and combined characteristics. The extent to which a vocabulary is a text can be studied, and Zipf's law discovered in it (with different final digraphs, trigraphs, etc., counted as words of this text). 24 refs. – *From the author abstract.*

1541.70
POIRIER, MICHELINE
[The semantic component of a transformational description of French] La composante sémantique d'une description transformationnelle du français. M.A. thesis, Univ. of Montreal, 1970. In French.

1542.70

PUMPJANSKIJ, A. L.

[A bilinguistic study of the language and style of scientific and technical literature] Bilingvističeskoe issledovanie jazyka i stilja naučnoj i texničeskoj literatury. Nauchno-Tekh Inf, Series 2, 1969, 7.12-15. In Russian.

Necessity for bilinguistic investigation of language and style of scientific and technical literature to provide rules for translation from one language to another. Linguistic equivalents are sought at the lexical, grammatical, and logicogrammatical levels. Resulting data used to raise the qualification of translators, most of whom are graduates in humanities. Theoretical study of the word order in English and Russian scientific and technical literature at the logicogrammatical level. 15 refs. – *From the author abstract.*

1543.70

QUERIDO, ANTONIO A. M.

Univ. of Montreal, Montreal (Canada), Dep. of Linguistics

[Grammar I: Transformational description of a subset of French] Grammaire I: Description transformationnelle d'un sous-ensemble du français. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 43. 77 p.

Variation on the 'Aspects' model of Chomsky, containing only rewriting rules and phrase markers, without lexical component or subcategorization rules. None refs.

1544.70

RAMOS, CLIA A.

Toward a computerized syntactic analysis of Portuguese. Ph.D. thesis, Georgetown Univ., 1970.

1545.70

ROJERO, MARIA LUISA

Univ. of Ottawa, Ottawa (Canada)

[The concept of moods in Andrés Bello's grammar and abstract verbs in generative grammar] Lo conceptuado de los modos en la gramática de Andrés Bello y los verbos abstractos en la gramática generativa. 24 p. Available from the author.

Bello's theory in his 'Gramatica' (1847) to account for Spanish verb moods, especially the subjunctive in independent sentences, was a precursor of current transformational grammar models that incorporate abstract verbs or performatives. His studies are to formalize and develop Bello's insightful notions. 15 refs.

1546.70

ROJERO, MARIA LUISA

Univ. of Ottawa, Ottawa (Canada)

Mood and presupposition in Spanish. August, 1969. 50 p.

Indicative complementation and restrictive relative clauses are correlated with a positive presupposition about their truth; the subjunctive implies a neutral attitude. These presuppositions must be reflected in the underlying structure. Because the presuppositional nature of the subordinate clause affects even very early transformations. 35 refs. (A brief version of this paper was read at the 1970 Summer Meeting of the Linguistic Society of America under the title 'Indicatives, subjunctives and presupposition in Spanish'.) – *From the author abstract.*

1547.70
SANGSTER, LINDA R. (WAUGH)
A semantic analysis of word order in French. Ph.D. thesis, Indiana Univ., 1970.

1548.70
SCHANE, SANFORD A.
French phonology and morphology. MIT research monograph 45. Cambridge: MIT Press, 1968, xx, 161 p. $10.00.

First attempt to treat contemporary French within theoretical framework of generative phonology as formulated by Halle and Chomsky. Natural language, exemplified here by French, is an integrated system; morphological information is relevant for determining phonological representation of morphemes, phonological information, and conversely, for establishing morphological structure of language. 64 refs. – *From the author preface.*

1549.70
SHAHEVITCH, BOAZ
[Sentence length in Hebrew prose and its varieties] Shiuro vegivun shiuro shel hamishpat bechtivat haiyun shebeivrit. Leshonenu, 1970, 34:3.210-224. In Hebrew.

Some stylistic observations on the essayistic prose of the last two centuries.

1550.70
STREETER, VICTOR J.
Homogeneity in a sample of technical English. Ph.D. thesis, Univ. of Michigan, 1969.

1551.70
TERREBONNE, ROBERT A.
A generative phonology of the Mercian Old English verb. Ph.D. thesis, Louisiana State Univ., 1970.

1552.70
TUȚESCU, MARIANA
Univ. de Bucarest, Bucarest (Roumanie), Faculté des Langues romanes et classiques
[Syntactic-semantic relations and features in the French nominal group] Relations et traits syntactico-semantiques dans le groupe nominal francais. Rev Roum Linguist, 1969, 14:1.37-50. In French.

Role of semantics in formulation of syntactic rules; reduction of syntactic phenomena to rules by syntactic base subcomponent; interpretive role of transformational subcomponent; generation of syntactic surface structures by transformations and strict subcategorization rules and generation of semantic surface structures by selection rules; composition of semantic component; definition on semantic base of syntactic functions subject, attribute, complement. Violation of these rules leads to grammatically deviant constructions.

1553.70
VASILIU, EMANUEL
Univ. of Bucharest, Bucharest (Romania), Faculty of Romanian Language and Literature
Some remarks about 'and'-constructions. Rev Roum Linguist, 1969, 14:5.435-446.

Discussion of semantic interpretation of constructions formed by means of connective 'and' generatively interpreted as output of constituent coordinating transformation. Some constructions, regarded as conjunction of two atomic sentences with identical arguments for predicates, are semantically interpreted as conjunction of two exclusion

expressions. Others interpreted as conjunction of two atomic sentences whose truth values depend only on truth value of atomic sentences, irrespective of identity or non-identity of individual expressions. Five refs. – *From the author.*

1554.70
WEINTRAUB, D. KATHRYN
Univ. of Chicago, Chicago, Ill.
The English relative clause. MT: Mech Transl & Comput Linguist, 1968, 11:3/4.89-102.

Description of computer grammar including most English relative clause constructions. Program in COMIT. 12 refs. – *From the journal abstract.*

1555.70
WOLFART, H. CHRISTOPH
An outline of Plains Cree morphology. Ph.D. thesis, Yale Univ., 1969, 299 p. Diss Abstr Int, 1970, 31:3.1255A. [UM: 70-17,442, Xerox$13.50 MF$4.00].

1556.70
[illegible]ICKY, ARNOLD M.
Ohio State Univ., Columbus, Ohio, Dep. of Linguistics
Auxiliary reduction in English. Linguist Inq, 1970, 1:3.323-336.

Investigation of English contraction rule of auxiliary reduction, related rules, their dependence on information unavailable in surface structure, and restrictions due to complex conditions referring to syntactic and phonological information available in surface structure. Auxiliary reduction applies to eight forms: 'is', 'has', 'would', 'had', 'have', 'am', 'are', 'will' and is to some extent dependent on prior application of glide deletion. 21 refs. – *From the author.*

See also 1224, 1231, 1258, 1259, 1263, 1267, 1274, 1276, 1277, 1279, 1348, 1400, 1462, 1474, 1557, 1601, 1606.

MACHINE-AIDED LANGUAGE LEARNING

Computer assisted language instruction and related techniques involving automation.

1557.70
ABBOUD, VICTORINE A.
A computer assisted instruction program in the Arabic writing system. Ph.D. thesis, Univ. of Texas, Austin, 1970.

1558.70
ANNETT, JOHN; DUKE, JOHN, eds.
National Council for Educational Technology, London (England)
Proceedings of a seminar on computer based learning systems. University of Leeds, 8-12 September 1969. March 1970, 97 p. [ERIC: ED 040 586 HC$4.95 MF$0.50]

Papers on computers in education, learning systems, planning and management, hardware and engineering, development processes in computer assisted instruction (CAI), and economic problems. 46 participants from the United Kingdom, Canada,

Belgium, Holland, France, and the United States. Summary of the discussion and some lengthy reference sections. Discussion of proposal for a national research and development effort. – *From the 'RIE' abstract.*

1559.70

BLACK, JOSEPH, ed.

National Council for Educational Technology, London (England)

Computers for education: Report of a working party into the potential applications and development of computer based learning systems. NCET working paper no. 1. London: Councils and Education Press, 1969, 43 p. 10 s 6 d, $1.25.

State of the art report for Great Britain: potential uses of computers for education, computer based learning systems, the physical bases of the system hardware and software, the relevance of programed instruction and instructional theory, possible subject areas for the application of computer based learning systems, econometrics, and a research and development program. – *From the 'RIE' abstract.*

1560.70

BUSHNELL, DON D.

Academy for Educational Development, Inc., Washington, D.C.

Introducing the docile technology immemoriam of CAI. BR-8-0571. 1970, 35 p. [ERIC: ED 039 703 HC$1.85 MF$0.25].

The time shared computer assisted instruction console should be used as a problem solving tool for the student. Computer is a tool for experimentation in new subject matters and a simulator of unfamiliar environments. The use of computers for drill and practice and tutorial projects is inefficient. Modifications that must be made in the mediation process if the student is to use the computer effectively. Appendix of several short papers discussing further uses for computers in education. A bibliography is appended. (This is one of the support papers for 'To Improve Learning: A Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) – *From the 'RIE' abstract.*

1561.70

CARBONELL, JAIME R.

Bolt, Beranek and Newman, Inc., Cambridge, Mass.

Mixed-initiative man-computer instructional dialogues. BBN-1971. May 1970, 217 p. [ERIC: ED 040 585 HC$10.95 MF$1.00].

Motivation, background, and current implementation for the SCHOLAR system, and technical discussion of CAI programming languages in general. System can generate out of its information network the material to be presented to the student, questions to be asked, and answers expected, and can answer questions formulated by the student. This report based on thesis presented to the MIT Dep. of Electrical Engineering. – *From the 'RIE' abstract.*

1562.70

Computers in education: Their use and cost. Detroit: American Data Processing, 1970, 97 p.

Findings and recommendations of the President's Science Advisory Committee on the use of computers in undergraduate, secondary, and higher education; needs of the computer science student; interaction between research and educational uses of computers; computer languages; and the need for faculty orientation in the use of computers. Needs of a large university computational facility. Provides information about estimating costs of purchasing, installing, implementing, and operating a media system. – *From the 'RIE' abstract.*

1563.70

COULSON, JOHN E.

Academy for Educational Development, Inc., Washington, D.C.

Computer assisted instruction and its potential for individualizing instruction. BR-8-0571. 1970, 30 p. [ERIC: ED 039 705 HC$1.60 MF$0.25].

For the present, the computer is most useful in its role of a general purpose information processing system -- cost as yet prohibiting its use as major instructor in a direct student-computer dialogue. Emphasizes importance of computer as tool in individualized instruction. State of the art in computer based tutorial systems with special reference to the work being done at the System Development Corporation. (This is one of the support papers for 'To Improve Learning: a Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) – *From the 'RIE' abstract.*

1564.70

DEMPSEY, MICHAEL J.

Academy for Educational Development, Inc., Washington, D.C.

Relationships between the restructuring of schools and communications technology. BR-8-0571. 1970, 16 p. [ERIC: ED 039 743 HC$0.90 MF$0.25].

The new educational approaches -- team teaching, television, computers, individualized instruction, etc. -- work. The problem is how to use them. The idea must be to restructure the school system around these new concepts, so that they are an integral part of the teaching and learning process, not just accretions, or merely experiments. (This is one of the support papers for 'To Improve Learning: A Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) – *From the 'RIE' abstract.*

1565.70

DICK, WALTER

Florida State Univ., Tallahassee, Fla., Computer Assisted Instruction Center

An overview of computer-assisted instruction for adult educators. CAI-TM-9. October 1969, 27 p. [ERIC: ED 033 611 HC$1.45 MF$0.25].

Detailed history and definition of CAI; development of college level computer based multimedia physics course as example of tutorial activities; overview of hardware and software problems; applications at FSU for use in adult education. – *From the 'RIE' abstract.*

1566.70

DICK, WALTER; et al.

Florida State Univ., Tallahassee, Fla., Computer Assisted Instruction Center

Development of a model for adaptive training via computer assisted instruction utilizing regression analysis techniques. TR-10. June 1970, 59 p. [ERIC: ED 041 485 HC$3.05 MF$0.50].

Study to produce dynamic decision model for ongoing learning situation presented via CAI. Correlation and regression analyses with the quizzes and final exam as the dependent measures; the relevant variables incorporated into the decision model. Model identified trainees who needed remedial instruction. Reference list. Samples of material used to gather data, and equations developed to analyze data appended. – *From the 'RIE' author abstract.*

1567.70

EISELE, JAMES E.

Univ. of Georgia, Athens, Ga., College of Education

The computer as a tool for curriculum development and instructional management. March 1970, 20 p. [ERIC: ED 040 575 HC$1.00 MF$0.25].

Discussion of electronic information retrieval system for teachers: behavoral objectives, subject matter statements, suggested instructional procedures, materials and references, and evaluation procedure. Screen of learner characteristics and professional variables used to choose items most suitable for each student. System refined through continuous feedback system. Reference list and appendices. (Paper presented at the Annual Convention of the American Educational Research Association, Minneapolis, Minn., March 2-6, 1970.) - *From the 'RIE' abstract.*

1568.70

ENTELEK, INC., Newburyport, Mass.

Computer assisted instruction information exchange. Final report. February 1970, 43 p. [ERIC: ED 038 862 HC$2.25 MF$0.25].

Report on establishment and operation of an exchange of information among universities, corporation and government agencies concerned with use of computer as aid to instructional process. Four modes of information dissemination described: (1) monthly dissemination of information on cards; data distributed includes computer assisted instruction (CAI) research abstracts, CAI program specifications, computer managed instruction (CMI) research abstracts, and CAI facility descriptions; (2) descriptions of the seven conferences include special topics covered: CAI languages, CAI in technical education, CAI in health professions, simulation in CAI, and instructional strategies in CAI; (3) three week workshop; (4) annual integration of data into literature surveys; methods of data collection (site visits and questionnaires) and classification (construction of CAI and CMI thesauri) included. - *From the 'RIE' abstract.*

1569.70

FREMER, JOHN; ANASTASIO, ERNEST J.

Educational Testing Service, Princeton, N.J.

Computer assisted item writing -- I. Spelling items. IDM-68-1. July 1968, 12 p. [ERIC: ED 038 839 HC$0.70 MF$0.25].

Demonstration of potential usefulness of computer as tool for item writer. A spelling item type was used for demonstration and analysis made of types of misspellings used by writers of spelling items. A set of error generation rules developed and a computer program (the MISSPELLER) written. Sample of words fed into computer and list of misspelled words, separated into previously defined error categories, created; list evaluated by spelling-test developers. Other more complex item types now being studied. Sample printouts. - *From the 'RIE' abstract.*

1570.70

GALLAGHER, PAUL D.

Florida State Univ., Tallahassee, Fla., Computer Assisted Instruction Center

An investigation of instructional treatments and learner characteristics in a computer managed instruction course. CAI-TR-12. Contract N00014-68-A-0494. July 1970, 106 p. [NTIS: AD 709 953].

Evaluation of four instructional treatments varying in sequence of tasks (student selected or computer assigned) and in evaluation of instructional materials developed by students in course (instructor conducted or student computer interaction). Analyses conducted to identify specific student attitudes, personality characteristics, and

background information related to course success. – *From the 'R&D Reports' author abstract.*

1571.70

HANAUER, S. L.

Bell Telephone Labs., Inc., Murray Hill, N.J.

Computer assisted instruction in the pronunciation of foreign languages. Annu Bull (Res Inst Logop Phoniat, Univ Tokyo), 1970, 4.103-109.

Describes one aspect of a computer program for testing students' abilities in the hearing and pronunciation of a foreign language: the algorithm and material for testing English monosyllabic words. Two refs.

1572.70

HANSEN, DUNCAN N.

Florida State Univ., Tallahassee, Fla., Computer Assisted Instruction Center

Current research development in computer assisted instruction. TM-17. February 1970, 39 p. [ERIC: ED 038 863 HC$2.05 MF$0.25].

Survey of computer assisted instruction (CAI). Review of critical terminology used to describe research progress within CAI; development of conceptual framework by which to consider current investigatory efforts. Examination of psychological nature of CAI situation, concepts of how CAI provides for individualization of instruction and procedures, and research findings for use of instructional strategies. Discussion of learner strategies and importance within CAI in learning investigations. – *From the 'RIE' abstract.*

1573.70

HANSEN, DUNCAN N.; et al.

Florida State Univ., Tallahassee, Fla., Computer Assisted Instruction Center

Annual progress report. January 1, 1969 through December 31, 1969. CAI Center, Florida State University. Sponsored by Office of Naval Research. February 1970, 55 p. [ERIC: ED 041 446 HC$2.85 MF$0.25].

Research and development efforts: progress on Project THEMIS was made on developing learner strategies, training strategies, validation strategies, and computer systems strategies; Wakulla County Computer-Related Instructional Technology project; systems factors and potentials of CAI; model for adaptive training via CAI, utilizing regression analysis techniques, and for learner control in automated instruction; CAI and curriculum revision project at the Center; institute in computer related multimedia instruction for administrators and faculty. – *From the 'RIE' abstract.*

1574.70

HILGARD, ERNEST R.

Academy for Educational Development, Inc., Washington, D.C.

The psychological heuristics of learning. BR-8-0571. 1970, 20 p. [ERIC: ED 039 748 HC$1.10 MF$0.25].

Discusses how programmed learning and computer assisted instruction have expanded and eased efforts to apply knowledge gained by study of the psychology of learning to actual teaching. (This is one of the support papers for 'To Improve Learning: A Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) – *From the 'RIE' abstract.*

1575.70

HOBSON, EDWARD NEWTON

Florida State Univ., Tallahassee, Fla., Computer Assisted Instruction Center

Empirical development of a computer managed instruction system for the Florida State University model for the preparation of elementary school teachers. TR-8. Sponsored by Office of Naval Research. April 1970, 145 p. [ERIC: ED 041 456 HC$7.35 MF$0.75].

Development of data acquisition and instructional systems to collect reliable data to assess the management system's actual performance and its acceptability by trainees; to manage a variety of available resources; to schedule trainees' activities; and to monitor each trainee's progress. Student activities include selection of tasks and resource options, teaching concepts to local school children, taking quizzes both manually and via a teletype terminal, and entering data associated with all these activities at an on-line teletype terminal. Projected costs, data samples, and reference list appended. – *From the 'RIE' abstract.*

1576.70

HOWELL, JOHN J.; WEINER, MAX

City Univ. of New York, New York, N.Y., Div. of Teacher Education

Behavioral and attitudinal responses of college students toward computer assisted instruction. March 1970, 12 p. [ERIC: ED 041 451 HC$0.70 MF$0.25].

French and Remedial English CAI courses briefly outlined. A summary of students' completion records and attitude changes. In the case of the Remedial English course, it is noted that these records served as feedback in solving a programming problem. Data in tabular form at the end of the document. (Paper presented at the annual meeting of the American Educational Research Association, Minneapolis, Minn., March 4, 1970.) – *From the 'RIE' abstract.*

1577.70

ISHIDA, HARUHISA; FURUKAWA, SHIGEO

Univ. of Tokyo, Tokyo (Japan), Faculty of Medicine, Research Institute of Logopedics and Phoniatrics

SCRIPTER: A programming language for computer based programmed instruction. Annu Bull (Res Inst Logop Phoniat, Univ Tokyo), 1970, 4.121-125.

Describes SCRIPTER, a simple interpreter program written for a PDP-9 computer (a single terminal CAI system with a small graphic display, a storage scope display, and a hybrid magnetic tape unit) and designed to (1) allow almost any programmed instruction materials to be put into the computer; (2) reduce, by a careful analysis of a script, the amount of typing or specification necessary, while retaining readability, especially for non-computer-oriented teachers; and (3) provide for the semiautomatic structuring of teaching texts. – *From the author.*

1578.70

KOPSTEIN, FELIX F.; SEIDEL, ROBERT J.

Human Resources Research Organization, Alexandria, Va.

The computer as adaptive instructional decision maker. PP-1-70. Sponsored by Office of Chief of Research and Development (Army). January 1970, 17 p. [ERIC: ED 041 450 HC$0.95 MF$0.25].

CAI viewed as a simulation. Ideal teaching agent optimally adaptive to requirements of student. To serve these purposes the man-computer man-communication channel must be of adequate capacity and relatively free of constraining filters. Issues are discussed in the context of -an ongoing CAI systems development project (IMPACT). (Paper

presented at the International Symposium on Man-Machine Systems [IMPACT], Cambridge, England, September 1969.) – *From the 'RIE' author abstract.*

1579.70
KURLAND, NORMAN D.
Academy for Educational Development, Inc., Washington, D.C.
Educational technology in New York state: Theory, practice and the future. BR-8-0571 1970, 33 p. [ERIC: ED 039 757 HC$1.75 MF$0.25].

Theory behind use of educational technology in New York State is that major contribution of technology to education should be to help achieve individualized instruction and help students become self-motivating, self-directing independent learners. Current activities in use of educational technology described; conclusions on instructional uses of computer presented, major conclusion being that a large and carefully coordinated development effort must be undertaken if potential of technology to be realized. (This is one of the support papers for 'To Improve Learning: a Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) – *From the 'RIE' abstract.*

1580.70
LEITH, G. O. M.
National Council for Educational Technology, London (England)
Second thoughts on programmed learning: Developments in the ideas and applications of programming, including computer based learning. NCET Occasional Paper no. 1. London: Councils and Education Press, 1969, 16 p. 4 s., $0.50.

Recent research suggests that Skinner method may rest on faulty assumptions. The important points in programing seem to be defining behavioral objectives, analyzing the task necessary to accomplish the objective, providing an opportunity for feedback, and developing effective instructional materials and a stimulating environment. Computers are valuable in their ability to individualize teaching materials and strategies of instruction. Reference list appended. – *From the 'RIE' abstract.*

1581.70
LORD, FREDERIC M.
Educational Testing Service, Princeton, N.J.
The selfscoring flexilevel test. RB-70-43. Contract N00014-69-C-0017. July 1970, 16 p. [NTIS AD 709 981].

Certain modifications of a conventional test can force the item difficulty level to adjust automatically to the ability level of the examinee. Although different examinees take differentsets of items, the scoring method provides comparable scores for all. Test is self-scoring. – *From the 'R&D Reports' author abstract.*

1582.70
MILLER, AMES G.
Academy for Educational Development, Inc., Washington, D.C.
Deciding whether and how to use educational technology in the light of cost-effectiveness evaluation. BR-8-0571. 1970, 49 p. [ERIC: ED 039 728 HC$2.55 MF$0.25

Evaluation of resources, and their cost effectiveness. Listing of the major media of educational technology available today, together with a brief description of the strengths weaknesses, and costs of each. Considerations in choosing an instructional aid; evalation of instructional television and computer assisted instruction; approach to decision making on new instructional media at various educational levels. (This is

one of the support papers for 'To Improve Learning: a Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) – *From the 'RIE' abstract.*

1583.70

MILLER, JAMES G.

Academy for Educational Development, Inc., Washington, D.C.

A suggested ten-year phased program for developing, evaluating, and implementing instructional technologies. BR-8-0571. 1970, 19 p. [ERIC: ED 039 765 HC$1.05 MF$0.25].

A support paper for 'To Improve Learning: a Report to the President and the Congress of the United States by the Commission on Instructional Technology'. – *From the 'RIE' abstract.*

1584.70

MOLNAR, ANDREW R.

Dep. of Health, Education, and Welfare, Washington, D.C., National Center for Educational Research and Development

The computer and curriculum analysis. March 1970, 38 p. [ERIC: ED 041 481 HC$2.00 MF$0.25].

Curriculum design from subject matter, society, and learner points of view. Computer assisted instruction, computer managed instruction, and simulation programs. Systems approach using task analysis and behavioral objective statements to design an individualized instructional strategy. References appended. (Paper presented at Conference of the Center for Educational Research and Innovation, Paris, March 19, 1970.) – *From the 'RIE' abstract.*

1585.70

NORTH, R. STAFFORD

Academy for Educational Development, Inc., Washington, D.C.

Dial access as an instructional medium. BR-8-0571. 1970, 23 p. [ERIC: ED 039 712 HC$1.25 MF$0.25].

Examination of special features of dial access system to ascertain usefulness for specific purpose: the types of audio and visual media they can make available; the qualities which they can impart on these media, such as immediacy, ease and efficiency of presentation, flexibility, and individualization; the various appropriate learning procedures which can be used, such as presentation, programming, drill, audio-tutorial, problem solving, and resources; and the types of access required in the use of the media as in the type dualities of random-scheduled, exclusive-common, and remote-direct. (This is one of the support papers for 'To Improve Learning: a Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) – *From the 'RIE' abstract.*

1586.70

OLTMANN, KLAUS

[The use of the computer in foreign language instruction] Computereinsatz im Fremdsprachenunterricht. Neuer Sprach, 1970, 8.392-396. In German.

Specific possibilities for and limitations on use of computer in foreign language instruction based on observations in the United States.

1587.70

PARKUS, LAWRENCE

Academy for Educational Development, Inc., Washington, D.C.

Computer assisted instruction in elementary/secondary education: The state of the art. BR-8-0571. 1970, 37 p. [ERIC: ED 039 713 HC$1.95 MF$0.25].

Computer assisted instruction (CAI) is defined as a process which exploits the memory capacity and computational capabilities of a computer to allow a unique interaction between a student and curricular subject matter. Description of CAI modes. Drill and practice mode focuses on elementary and secondary education, with reference to the relationship between the improvement of public education and the attempt to confront socioeconomic crises. The need for the development of a more economical CAI system is also stressed. (This is one of the support papers for 'To Improve Learning; a Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) - *From the 'RIE' abstract.*

1588.70

PASK, GORDON

Systems Research Ltd., Richmond (England)

Learning strategies and teaching strategies. AD-691-485. June 1969, 180 p. [NTIS: AD 691 485].

Study of how subject directs attention and explores problem environment created by task to be learned and how subject's learning process facilitated by CAI systems. Subject interacted with automaton responsible for controlling experimental environment. Automaton either procedural device imposing behavioral constraints, or simple adaptive teaching machine, or conversational machine. Different subjects exhibited different strategies for learning same skill. Results show adaptive metasystem is better instructional instrument for skill studied than either attention-directing process or restricted single-strategy teaching system. - *From the 'RIE' abstract.*

1589.70

SEIDEL, ROBERT J.; KOPSTEIN, FELIX F.

Human Resources Research Organization, Alexandria, Va.

Resource allocations to effect operationally useful CAI. Professional paper 12-70. Sponsored by Office of the Chief of Research and Development (Army). April 1970, 21 p. [ERIC: ED 041 466 HC$1.15 MF$0.25].

Funds, people, facilities, and the delegation of appropriate authority to formulate appropriate policy for research and development and implementation of computer assisted instruction. Description and justification of CAI as a technology; the need for a systems approach. A partnership among industry (profit and nonprofit), government, education, and a national network of multidisciplinary centers suggested as a model. Reference list appended. - *From the 'RIE' abstract.*

1590.70

SIKLÓSSY, L.

Univ. of California, Irvine, Calif.

Computer tutors that know what they teach. In: 1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 251-255.

Discussion of structure of tutorial CAI programs, especially generative teaching systems. Outline of how to construct computer tutors that know their subject matter sufficiently to answer student's questions. Eight refs. - *From the author.*

1591.70

SMITH, DONALD; ITO, KAZUKO; SATO, CHIZUKO; ISHIDA, HARUHISA; FUJIMURA, OSAMU
Univ. of Tokyo, Tokyo (Japan), Faculty of Medicine, Research Institute of Logopedics and Phoniatrics

The pronunciation-hearing test using a hybrid magnetic tape system. Annu Bull (Res Inst Logop Phoniat, Univ Tokyo), 1970, 4.111-113.

Describes an experiment using computer controlled hybrid magnetic tape system in testing students in the oral repetition of presented speech. – *From the author.*

1592.70

SPEAGLE, RICHARD E.
Academy for Educational Development, Inc., Washington, D.C.

The costs of instructional technology. BR-8-0571. 1970, 36 p. [ERIC: ED 039 727 HC$1.90 MF$0.25].

Presentation of estimated annual cost table for instructional television, computer access, and computer assisted instruction (CAI). Identification of eight key variables which are critical in making these estimates; points out ways in which they may be manipulated to reduce the costs of instructional technology. (This is one of the support papers for 'To Improve Learning: a Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) – *From the 'RIE' abstract.*

1593.70

SPIELBERGER, CHARLES D.; O'NEIL, HAROLD F., JR.; HANSEN, DUNCAN N.
Florida State Univ., Tallahassee, Fla., Computer Assisted Instruction Center

Anxiety, drive theory, and computer assisted learning. CAI-TR-14. Contract N000014-68-A-0494. September 1970, 80 p. [NTIS: AD 714 504].

Four studies of the effects of anxiety on computer assisted learning. High school and college subjects presented with science and mathematics materials by an IBM 1500 CAI system. Findings discussed in terms of implications for Spence-Taylor Drive Theory and Spielberger's Trait-State Anxiety Theory. – *From the 'R&D Reports' author abstract.*

1594.70

STARKWEATHER, JOHN A.
Academy for Educational Development, Inc., Washington, D.C.

Adaptive machine aids to learning. BR-8-0571. 1970, 24 p. [ERIC: ED 039 715 HC$1.30 MF$0.25].

Examination of CAI with emphasis on man-machine relationships and on machine evolution: machine assistance to learning, the current status of CAI, directions of development, the development of criteria for successful instruction, meeting the needs of users, requirements for a computer system to handle conversational interaction, feedback and adaptation of machine systems, the choice of man or machine for educational tasks, and the likely results of increased machine intelligence on instruction. (This is one of the support papers for 'To Improve Learning: a Report to the President and the Congress of the United States by the Commission on Instructional Technology'.) – *From the 'RIE' abstract.*

1595.70

TWELKER, PAUL A., ed.
Oregon State System of Higher Education, Monmouth, Oreg., Teaching Research Div.

Instructional simulation systems; An annotated bibliography. Corvallis, Oreg., Continuing Education Publications, 1969, 286 p. $6.75.

Attempt to list latest available references including related topics such as instructional

systems design, computer assisted instruction, and programmed instruction. Main section arranged alphabetically by author; subject heading index is mainly key words or subject areas. Annotations where possible. – *From the 'RIE' author abstract.*

1596.70

Twenty-three cent CAI system aimed by Mitre. Datamation, 1970, 16:8.60-61.

News note on inexpensive prototype CAI system TICCET (Time-shared Interactive Computer-Controlled Educational Television) to be installed in 1972; cost and hardware.

1597.70

UTZ, WALTER J., JR.

RCA, Palo Alto, Calif., Instructional Systems

The use of computer generated tests to select a speaker for a random access digital audio system. April 1970, 12 p. [ERIC: ED 041 477 HC$0.70 MF$0.25]. Copies of tapes available from RCA Instructional Systems, 530 University Avenue, Palo Alto, Calif. 94301.

Discussion of the design and implementation of special tests to discover a speaker who would be most pleasing and intelligible to students using a random access digital audio in a computer assisted instruction system. Rated for likeability and intelligibility, those who scored highest in the two tests all had some professional voice training and spoke in a mid-range pitch. (Paper presented at annual meeting of the Department of Audio-Visual Instruction, National Education Association, Detroit, April 27-May 1, 1970.) – *From the 'RIE' abstract.*

1598.70

WASTLER, B. JEAN, ed.

Montgomery County Public Schools, Rockville, Md.

Project REFLECT: Computer assisted instruction project. Annual report June 1968 to June 1969. 1969, 124 p. [ERIC: ED 037 058 HC$6.30 MF$0.50].

Design of model plan to be utilized by public school systems: effectiveness, resources and planning, technique, strategies and applications of various systems.

See also 1274, 1323, 1641.

AUTOMATION IN THE HUMANITIES AND SOCIAL SCIENCES

Data processing in literature, social and behavioral sciences, and related fields.

1599.70

[Archeology and computers. Semiological and mathematical problems. With an introduction by J.-C. Gardin] Archéologie et calculateurs. Problèmes sémiologiques et mathématiques. Introduction de J.-C. Gardin. Colloques internationaux du Centre National de la Recherche Scientifique. Sciences humaines. Marseille, 7-12 avril 1969. Paris: Editions du Centre National de la Recherche Scientifique, 1970, 372 p. 65 F plus taxes. In French.

Collection of 21 papers on theoretical problems in use of computers in archeology. Six papers on semiological problems of recording artifacts and monuments of the past; six papers on documentation and classification of data; four papers on mathematical

problems, statistical methods; five papers on the need for collaboration between archeologists and mathematicians; final discussion. – *From the publisher preprint.*

1600.70

CHANDLER, PATRICIA

Gerard Manley Hopkins and Dylan Thomas: A study in computational stylistics. Ph.D. thesis, Louisiana State Univ., 1970.

1601.70

KASHER, ASA

Bar-Ilan Univ., Ramat-Gan (Israel), Dep. of Mathematics

[The Book of Isaiah: Morphological clusters and disputed authorship] Sefer Isaiah: Mikbazim morphologiyim lezihui hamehabrim. In: Asa KASHER and Uri SCHILD, eds., Proceedings of the (Israeli) national conference on data processing 1969 (Jerusalem: Information Processing Association of Israel, 1970), 245-294. In Hebrew; summary in English.

Detailed statistical examination has shown that the Book of Isaiah is not a stylistically homogeneous work but should be divided into three parts. Various hypotheses have been checked by statistical and pattern recognition methods of morphological data processing. 25 refs.

1602.70

OTT, WILHELM

[Metrical analyses of the Ars Poetica of Horace] Metrische Analysen zur Ars Poetica des Horaz. Göppinger akademische Beitrage 6. Göppingen: Kummerle, 1970. 122 p. DM19. In German.

Information concerning metrical research important for Latin hexameter. Description and construction of the program.

1603.70

PETŐFI, JÁNOS S.; SZÖLLŐSY, EVA

Computers in folklore research. Comput Linguist, 1969, 8.65-70.

Discussion of application of computers to folklore, with extension to other fields of research and what requirements should be met by the description and characterization of the objects of research.

1604.70

RADDAY, YEHUDA T.

Technion, Haifa (Israel)

Isaiah and the computer: A preliminary report. Comput & Hum, 1970, 5:2.65-73.

Lexicostatistical study of disputed authorship of Book of Isaiah using Elliot 503 with concordance compiled on IBM 360/50. Discussion of initial assumptions, analysis into six part division; conclusions concerning transition frequencies, relative entropy, special vocabulary. 24 refs. (See also 771, *L&A* 2.)

1605.70

ROSS, DONALD, JR.

Univ. of Pennsylvania, Philadelphia, Pa., Dep. of English

Composition as a stylistic feature. Style, 1970, 4.1-10.

Study of key words in some chapters by Thoreau, Emerson, and Carlyle.

1606.70

SARNA, DAVID E. Y.; SCHIFFMAN, LAWRENCE H.

Brandeis Univ., Waltham, Mass., Jewish Theological Seminary of America

Computer aided critical editions of Rabbinic texts. Heb Comput Linguist, 1970, 2:47-63.

Report on effort to establish critical editions for Rabbinical texts. Input problems, program and processing procedures, output and printing problems, prospects for future research. Editions under consideration present all variations of text in various manuscripts.

1607.70

SARNA, DAVID E. Y.; SCHIFFMAN, LAWRENCE H.; SIKTBERG, DAVID W.; STRASSFELD, M. J.

Brandeis Univ., Waltham, Mass., Jewish Theological Seminary of America

A computer aided edition of the Tosefta Sotah. Waltham, Mass.: Sarna Associates, 1970. In English and Hebrew.

Includes all the variations from various manuscripts edited by computer.

1608.70

SLAE, MARK

References to Marrons in the responsa of Rabbi Isaac Bar Sheshet: Information retrieval by computer. In: H. Z. HIRSCHBERG and M. BEER, eds., Bar-Ilan annual, VII-VIII (Ramat-Gan, Israel: Bar-Ilan Univ., 1970), 397-419; 47-63. In English; summary in Hebrew.

Full-text retrieval system is used for historical research.

See also 1268, 1549.

LANGUAGE SCIENCES

General linguistics, including historical and applied linguistics, psycholinguistics, sociolinguistics, dialectology, and relevant fields. (Selections.)

1609.70

ABRAHAM, WERNER

Univ. Wien, Vienna (Austria), Institut für Allgemeine und Indo-Germanische Sprachwissenschaft

[Competence and grammars based on usage: On the taxonomy of different areas of applied linguistics. Retrospective and critical evaluation of the 2nd AILA Congress in Cambridge, September 1969] Kompetenz und Mittelwertgrammatik: Zur Taxonomie der 'Angewandten Sprachwissenschaften.' Rückblick und kritische Stellungnahme zum 2. AILA-Kongress in Cambridge, September 1969. Lingua, 1970, 25:4.339-357. In German.

Attempt to establish interdisciplinary relations among various fields of applied linguistics and to systematize them in a hierarchical order on basis of parameters of theories of competence and performance. Areas suitable for computer analysis indicated.

1610.70

ALTAIS, JAMES E., ed.

Georgetown Univ., Washington, D.C., School of Languages and Linguistics

Report of the twenty-first annual round table meeting on linguistics and language studies. Bilingualism and language contact: Linguistic, psychological, and sociological aspects. Monograph series on languages and linguistics, 23. Washington, D.C.: Georgetown Univ. Press, 1970, xv, 379 p.

Twenty papers on various aspects of bilingualism and language contact. Authors include Einar Haugen, Robert J. DiPietro, John Macnamara, Joshua A. Fishman, Vera John, Dell Hymes, Susan U. Philips, Everett C. Hughes, Robert Roessel, John J. Gumperz, Chester C. Christian, Jr., A. Bruce Gaarder, Colmán L. Ó Huallacháin, William F. Mackey, Wallace Lambert, G. Richard Tucker, Russell N. Campbell, Susan Ervin-Tripp, Charles A. Ferguson, and Robert F. Roeming.

1611.70

BAR-ADON, AARON; LEOPOLD, WERNER F., eds.

Univ. of Texas, Austin, Tex.

Child language: A book of readings. Englewood Cliffs, N.J.: Prentice-Hall, 1971, xvi, 477 p. SBN 13-130765-7. $11.95.

Sixty reprinted articles intended as an introduction to various fields of child language and to different theories and research methods, both psychological and linguistic, as well as to various stages in the history of child language research. Special attention to contemporary research. – *From the editors.*

1612.70

ČISTOVIČ, L. A.

[Classification of speech sound based on recognition at high rate of repetition] Klassifikatsija zvukov rečhi pri ix bystrom povtorenii. FSTC-HT-23-722-70. June 1970, 15 p. Transl. from the Russian, Akust Zh, 1960, 6:3.392-398. [NTIS: AD 713 763].

Recognition of sounds created by rapid repetition, imitation, and phoneme discrimination of vowels is investigated. Distinctness (with respect to phoneme classification) of sounds created by rapid repetition dependent on the distinctness of initial sounds. A two-stage scheme considered for speech discrimination, based on preliminary imitation, and then on phoneme classification of the types of motions used in imitation. – *From the 'R&D Reports' author abstract.*

1613.70

DENISON, NORMAN

Communities of speech. Times Lit Suppl, 23 July 1970, 3,569.829-830.

Attempts to define sociolinguistics. Some current ideas on bilingualism: socially appropriate dialect variants discussed as plurilingual situation, diatypic case studies; macro-sociolinguistics and language planning; trends of increasing research.

1614.70

DEVER, RICHARD B.; GARDNER, WILLIAM I.

Univ. of Wisconsin, Madison, Wisc.

Performance of normal and retarded boys on Berko's test of morphology. Lang & Speech, 1970, 13:3.162-181.

Productive competence of adult English tested by Berko's test of morphology on normal and retarded boys. Results discussed in detail; modifications of test suggested. 11 refs.

1615.70

HALL, ROBERT A., JR.
Cornell Univ., Ithaca, N.Y.

Some recent studies on Port-Royal and Vaugelas. Acta Linguist Hafnien, 1969, 12:2.207-233.

Examines Port-Royal Grammar, evaluates some recent publications (e.g. Chomsky's 'Cartesian Linguistics') dealing with Port-Royal and Vaugelas. Concludes that, if linguistics is to be scientific, 17th century work not relevant. 66 refs. – *From the author.*

1616.70

KABASIMA, TADAO
Kyoto Prefectural Univ., Kyoto (Japan)

[A model of understanding] Math Linguist, 1969, 54.8-14. In Japanese.

Model of verbal behavior proposed dealing with receiving a message to understand its meaning. Choice of the 'true' meaning from among various possibilities an important factor. Mechanism of understanding discussed, generally from a probabilistic-theoretical point of view. – *From the author abstract.*

1617.70

KROGMANN, WILLY

[Language as a special form of communication] Sprache als Sonderform der Kommunikation. Folia Linguist, 1969, 3:3/4.360-369. In German.

Compares human speech with animal communication, particularly that of bees and birds.

1618.70

KUZ'MIN, JU. G.

[Theoretical and practical aspects of scientific-technical translation and the problems of terminology] Voprosy terminologii v praktike i teorii perevoda naučno-texničeskoj literature. Nauchno-Tekh Inf, Series 1, 1969, 6.11-19. In Russian; summary in English.

Aspects of terminology, particularly those related to translating practices, discussed with view to clarifying mechanism of term translation. Semantic classification of terms proposed based on the relationships between the term's form and the content of the notion it denotes, and constructed in accordance with the criteria of concept definiteness and explicitness of the term's form. Changes undergone by the terms in speech which make the terms context dependent are traced. Interlanguage differences in concepts and their expressions are shown. Terms should be treated as a stage in the translation process; translation of terms is impossible, even in principle, merely by substituting equivalents by means of any concrete automatic tools. 14 refs. – *From the journal abstract.*

1619.70

LEECH, GEOFFREY

The linguistic and the literary. Times Lit Suppl, 23 July 1970, 3,569.805-806.

Discusses the dis-ease that exists between linguistics and literature. Notes they are not competitive but operate at different levels of abstraction from the text. Contributions of linguistics would include help in defining and understanding vocabulary of literary theory and the development of models of how language attains the musical effect of poetry. – *From the author.*

1620.70
LOWENBRAUN, SHIELD
An investigation of the syntactic competence of young deaf children. Ph.D. thesis, Columbia Univ., Teachers College, 1969.

1621.70
LYONS, JOHN
The meaning of meaning. Times Lit Suppl, 23 July 1970, 3,569.795-797.

Brief accounts of important developments in structural semantics and in the relationship of semantics and grammar.

1622.70
MALKIEL, YAKOV
Univ. of California, Berkeley, Calif., Dep. of Linguistics and Romance Philology
Essays on linguistic themes. Language and style series 6. Oxford: Blackwell, 1968, xviii, 415 p. SBN 631-08230-1.

'Articles, notes, and reviews' covering over 15 years of research by author. Six articles on Romance scholarship and its relation to general linguistics; five on lexicology and etymology; two on formulaic sequences in language. - *From the preface.*

1623.70
MATTHEWS, P. H.
Classes and functions. Times Lit Suppl, 23 July 1970, 3,569.799-800.

Problems of grammar and syntax today: grammatical function and hierarchy of units; surface and deep structure relationships; question of depth to find link for logical and surface object; recursiveness; Chomskyan philosophy of generative grammar and infant psychology.

1624.70
MCCONNOCHIE, JEAN ALICE
Simplicity and complexity in scientific writing. Ph.D. thesis, Columbia Univ., Teachers College, 1969.

1625.70
MCNEILL, DAVID
Univ. of Chicago, Chicago, Ill.
The acquisition of language: The study of developmental psycholinguistics. New York: Harper & Row, 1970, 183 p. $6.95.

Study of concept of the sentence -- how sentence develops in language of children and how they influence the course of language acquisition. Methodology and issues, pattern of early speech, biological background, universals, transformations, experience, semantic and sound development. Linguistic background appended.

1626.70
MOHR, PETER
Informationszentrum für Fremdsprachenforschung, Marburg/Lahn (Germany)
[Report on the second international congress for applied linguistics, Cambridge, September 8-12, 1969] Bericht über den 2. Internationalen Kongress für Angewandte Linguistik, Cambridge 8.--12. IX, 1969. IFS Dokumentation, Angewandte Sprachwissenschaft, Positionspapier. Marburg/Lahn: Informationszentrum für Fremdsprachenforschung, 1970, ii, 45 p.

General trends in applied linguistics outlined basis representative papers delivered at

Second International Congress for Applied Linguistics. Topics include mechanized text analysis, communication research and its applications, technology of language teaching, measurement and classification of errors.

1627.70

OLLER, JOHN W.

The coding of information in natural languages: A psycholinguistic theory. Ph.D. thesis, Univ. of Rochester, 1969.

1628.70

ROBERTS, A. HOOD

Center for Applied Linguistics, Washington, D.C.

The system of communication in the language sciences: Present and future. In: Carnot E. NELSON and Donald K. POLLOCK, eds., Communication among scientists and engineers (Lexington, Mass.: D. C. Heath, 1970), 293-306.

Discussion of language sciences community and communication patterns, existing information resources, current development, and problems of designing a future Language Information Network and Clearinghouse System (LINCS). – *From the author.*

1629.70

RUBIO, ATILIO LEÓN

Univ. Nacional de Trujillo, Trujillo (Peru), Dep. de Ciencias de la Educación, Sección de Instruccion Programada

[Definition of the information of a sign] Definicion de la informacion de un signo. Leng Cienc, 1970, 36.15-21. In Spanish.

Discussion of immediate and mediate information; relation to messages, binary decisions, external stimuli, cybernetics.

1630.70

TARNÓCZI, LAURENT

[Critical essay on linguistic structuralism today] Essai de critique au structuralisme linguistique actuel. Linguistics, 1970, 57.60-92. In French.

Survey by terminology of linguistic structuralism -- inductive and deductive methods of investigation, concepts, linguistic sign, lexical and grammatical elements, morpheme, formal and distributional analyses, structure vs. function, value in system, propositions, transformation. 100 refs.

1631.70

WACHAL, ROBERT S.; SPREEN, OTFRIED

Univ. of Iowa, Iowa City, Iowa, Dep. of Mathematics

A computer aided investigation of linguistics performance: Normal and pathological language. Report on the theory and applications of automaton theory. THEMIS-UI-TR-29. Contract N00014-68-A-0500. July 1970, 22 p. [NTIS: AD 714 144].

Description of system of 20 FORTRAN and PL/1 programs, developed for analysis of aphasic and normal speech transcripts. Programs aid in lexical, grammatical, paralinguistic, and statistical analyses and in data preparation and correction. Useful for schizophrenic and other pathological languages. Adaptable to the analysis of written language samples and the investigation of authorship and style. – *From the 'R&D Reports' author abstract.*

1632.70

WALKER, EDWARD L. T.

Grammatical relations and sentence memory. Ph.D. thesis, Indiana Univ., 1969.

1633.70

WALMSLEY, JOHN B.

St. Mary's College, Newcastle-upon-Tyne (England)

Transformation theory and translation. IRAL (Int Rev Appl Linguist Lang Teach), 1970, 8:3.185-199. Summary in French and German.

Attempts to apply techniques and ideas (but not the rigorous formulation) derived from transformational grammar to the teaching of translation. Summary discussion of questions raised during discussion of technique. Seven refs. (A shorter version was read to the AILA conference at Cambridge, England on Sept. 10, 1969.)

1634.70

WARTBURG, WALTHER VON

[Problems and methods in linguistics. Rev. ed. with collaboration of Stephen Ullmann] Einführung in Problematik und Methodik der Sprachwissenschaft. Oxford, England: Basil Blackwell, 1969, 268 p. SBN 631-08240-9. 2.17s.7d. Transl. from 2nd French ed. by Joyce M. H. Reid.

Study of the structural history of languages: introduction, language and its evolution (phonetics, morphology, syntax, vocabulary), interdependence of historical and descriptive linguistics, language and speech, style, and nation. (German text consulted in translation.)

1635.70

WHITAKER, HARRY

On the representation of language in the human brain: Problems in the neurology of language and the linguistic analysis of aphasia. Ph.D. thesis, Univ. of California, Los Angeles, 1969.

1636.70

WILLIS, CLODIUS, JR.

Individual and dialectal variation in the perception of synthetic vowels. Ph.D. thesis, Univ. of Rochester, 1970, 181 p. Diss Abstr Int, 1970, 31:3.1787-A. [UM: 70-17,916 Xerox$8.40 MF$4.00].

1637.60

WOOD, GORDON R.

Southern Illinois Univ., Edwardsville, Ill., Humanities Div.

Vocabulary change: A study of variation in regional words in eight of the Southern states. Carbondale: Southern Illinois Univ. Press, 1970, 400 p. $19.50.

Examination of changing patterns in word usage in Arkansas, Alabama, Florida, Georgia, Louisiana, Mississippi, Oklahoma, and Tennessee. Data analyzed by computer; results presented in maps, tables, and lists of word frequencies.

See also 1261, 1262, 1420, 1456.

RELATED FIELDS AND APPLICATIONS

Artificial intelligence, information and communication theory, cybernetics, man-machine communication, and other relevant fields. (Selections.)

1638.70

Bell Labs computer converts text to speech. Datamation, 1970, 16:7,126.

News note on system developed by Cecil H. Coker that converts text input by teletype to synthetic speech which may be heard over loudspeaker or telephone; considered several years away from economic practical application. – *From the author.*

1639.70

BERTONE, C. M.; FINLEY, D. L.; MEISTER, D.; MUCKLER, F. A.; OBERMAYER, R. W.
Bunker-Ramo Corp., Canoga Park, Calif.
Human performance prediction in man-machine systems. Volume 1: A technical review. NASA-CR-1614. NAS2-5038. August 1970, 226 p. [NTIS: N70-35379].

1640.70

BOBROW, DANIEL G.
Bolt, Beranek, and Newman Inc., Cambridge, Mass.
Natural communication with computers III. Final report 31 August 1969-30 September 1970. BBN-2015 AFCRL-70-0505. Contract F19628-70-C-0013. ARPA Order-627. September 1970, 44 p. [NTIS: AD 714 089].

Development of techniques to facilitate natural communication with computers, people, other computers, and real-time devices. The work has been carried on as an integrated research program: with semantic automatic language processing, automatic programming aids, and development of time-sharing systems. Brief summary of the author's research, author abstracts of related published documents for further information. – *From the 'R&D Reports' author abstract.*

1641.70

BRISLIN, PATRICIA B.
INTECH Corp., Wilkes-Barre, Pa.
Educators information technology system; Project EDITS. Final report. BR-9-0184. Grant OEG-0-9-480184-2320(10), by Office of Education (DHEW), Washington, D.C., Bureau of Research. March 1970, 361 p. [ERIC: ED 039 781 HC$18.15 MF$1.50].

Educators Information Technology System (EDITS), was designed to instruct teachers in data processing, broaden the knowledge of educators concerning the impact and utilization possibilities of computers, and allow teachers to develop techniques for using computer information technology in the classroom and in administration. The participants after completion of the program, judged it to be successful providing an effective technique for dissemination of computer information technology. – *From the 'RIE' abstract.*

1642.70

CHUBB, GERALD P.; APTER, JULIA T.; GRAESSLEY, WILLIAM W.; SCHRENK, LORENZ P.; RYAN, PATRICK W.
Wright-Patterson AFB, Ohio, Aerospace Medical Research Lab.
The use of computers for man-machine modelling: Status and plans. AMRL-TR-70-60. June 1970, 76 p. [NTIS: AD 711 638].

Four papers, each describing a different approach to modelling man. First describes an extension of the servo theoretic approach to describing the human operator as an active

element of a control system. Model presented developed to describe and predict muscular actions. Second addresses the monte carlo simulation of human performance within a task and time analytic framework and illustrates the current state of the art. Third deals with man-computer interaction in information processing and decision making tasks. Attempt made to describe such interactions in a manner that facilitates allocation of tasks to man and computer. Fourth paper demonstrates the feasibility of graphically portraying human biomechanical movements on an IBM graphic display console. Such techniques can simulate human movements and aid the designer in optimizing workplace geometry. – *From the 'R&D Reports' author abstract.*

1643.70

COOLEY, WILLIAM W.; GLASER, ROBERT

Univ. of Pittsburgh, Pittsburgh, Pa., Learning Research and Development Center

The computer and individualized instruction. BR-5-0253. Reprint no. 53. October 1969, 11 p. (Also available in Science, 1969, 166.574-582.

A prototype computer-based management and information system (MIS) was designed to assist teachers, developers and researchers involved in the Individually Prescribed Instruction Project. Functions include collection of data, monitoring of student progress, provision of prescription information, and diagnosis of student difficulty. – *From the 'RIE' abstract.*

1644.70

CRAMER, PHEBE

Univ. of California, Berkeley, Calif.

Magnitude and selectivity as independent factors in semantic generalization. J Verbal Learn & Verbal Behav, 1970, 9:5.509-524.

Five experiments show generalization greater to words which are associatively related to the critical stimulus than to unrelated words. 17 refs.

1645.70

FRANK, ALAN I.

Scan-Data Corp., Norristown, Pa.

Optical character recognition (OCR). Comput & Autom, 1970, 19:11.24-29.

General survey of classes and characteristics of OCR systems by input readers, scanning techniques, recognition and correlation techniques, and feeding devices.

1646.70

FREEMAN, HERBERT

New York Univ., New York, N.Y., Dep. of Electrical Engineering

Digital computer processing of graphical data. Final report. August 1969, 20 p. [NTIS: AD 699 617].

Report of two-year study of digital computer processing of graphical data. Bibliography with abstracts of work published during period of program. Linguistic approach to pattern recognition, optimum two-dimensional allocation problem, hidden-line problem for quadricsurfaced solids, reconstruction problem for irregular polyhedra, and data structure problem for computer graphics. – *From the 'RIE' author abstract.*

1647.70

GLUSHKOV, V.

Long-range problems of Soviet cybernetics. Transl. from the Russian, Znamya, 1970, 40:8.145-176, by the Joint Publications Research Service. [NTIS: JPRS-51457].

Discussion of what cybernetics has meant and will mean for society, what the electronic

computer has brought to economics and to the national economy, and what it can do to advance the scientific-technical revolution in the USSR. – *From the 'R&D Reports' abstract.*

1648.70
GOYER, ROBERT S.
Ohio Univ., Athens, Ohio, Center for Communication Studies
Communication, communicative process, meaning: Toward a unified theory. J Commun (Kans), 1970, 20:1.3-16.

Defines terms; suggests a perspective for approaching the study of communicative process and a behavioral focus for the examination and classification of the process elements. Eight refs.

1649.70
HAWKINS, JOSEPH K.
Robot Research, La Jolla, Calif.
Space-sharing sampled-data parallel picture processing. In: International conference on pattern recognition (Paris: Editions Orphys, 1969), 251-267.

Notion of parallel, iterative image processing as related to 'picture linguistic' approaches to the same subject. Similiarity of decision stages in multi-layer networks to nomenclature and grammar of heretofore serial linguistic approaches. Example of image extraction involving a six-level parallel decision structure of increasingly higher powers of abstraction; converse process of image generation is touched upon briefly. – *From the 'R&D Reports' author abstract.*

1650.70
HOLLAND, WADE B.
Rand Corp., Santa Monica, Calif.
'Soviet cybernetics review', 1969 (Index), 3:12. RM-6000/12-PR. Contract F44620-67-C-0045. December 1969, 27 p. [NTIS: AD 709 872].

Set of indexes to 1969 'Soviet Cybernetics Review', and bibliography with abstracts of 18 other Rand publications in the field of Soviet cybernetics. Arranged by subjects, personalities (including authors, persons written about, and persons pictured), organizations, and hardware/software. – *From the 'R&D Reports' author abstract.*

1651.70
HOLLAND, WADE B.
Rand Corp., Santa Monica, Calif.
'Soviet cybernetics review', 1970, 4:6. RM-6200/6-PR. Contract F44620-67-C-0045. June 1970, 64 p. [NTIS: AD 709 873].

Contents: Survey of the first all-union conference on programming; collective use computer systems; a Tsar3 for the computer industry; programmed instruction and teaching machines in the USSR; the Central Economic Mathematics Institute; Armenia: uniting computer design and production; a 500-nanosec memory for BESM-6; neurobionics: an overview; training programming teachers; automated control systems in the Belorussian republic; French journalists examine BESM-6 at Serpukhov; cybernetics in the scientific revolution; the plight of an inventor.

1652.70
HOLLAND, WADE B.
Rand Corp., Santa Monica, Calif.
'Soviet cybernetics review', 1970, 4:7. RM-6200/7-PR. Contract F44620-67-C-0045. July 1970, 48 p. [NTIS: AD 711 361].

The first article based on the 1969 annual meeting of the Ukrainian SSR Academy, at which the subject of economic cybernetics was discussed. The work of the Academy's various economic institutes is outlined, summarizing some of the highlights of research in mathematical economics and control systems. Ukraine achievements and problems of computer systems in the Republic, particularly industrial applications for process control. Popularized description of the automatic computer design system developed at the Kiev Institute of Cybernetics. Also featured are photographs and description of the Ruta-110D, the first Soviet disc memory unit on display in Moscow at the Exhibition of National Economic Achievements. Analysis of the dispute on the system of computer centers in Romania. - *From the 'R&D Reports' author abstract.*

1653.70

HOLLAND, WADE B.

Rand Corp., Santa Monica, Calif.

'Soviet cybernetics review', 1970, 4:8. RM-6200/8-PR. Contract F44620-67-C-0045. September 1970, 80 p. [NTIS: AD 714 068].

Soviet R&D is redirected toward industrial needs. Besides computers and automation, major attention on power engineering, electronics, nuclear applications, chemistry, earth sciences, economic control, and microbiology. Ukrainia's scientific-technical information system includes a fund of over 2,500 algorithms, programs, and user's guides. Report of Romanian electronic progress. Tbilisi emerges as a major computer design center with the Tbilisi-1 process controller and M-1000, first of the third-generation modular Soviet computers. The BESM-3M read-write head wears out tapes. Other hardware is discussed or pictured. - *From the 'R&D Reports' author abstract.*

1654.70

HOLT, ARTHUR W.

Recognition Terminals Inc., Rockville, Md.

Smart terminals. Datamation, 1970, 16:13.51-57.

Description of OCRIT (Optical Character Recognizing Intelligent Terminal) and SCANIT (Scan-only Intelligent Terminal). Contrast of systems using intelligent terminals (can read information exactly as prepared) with systems using other forms of data entry; comparison of intelligent terminals with the classical use of OCR; advantages. - *From the author.*

1655.70

KRIPPENDORFF, KLAUS

Univ. of Pennsylvania, Philadelphia, Pa., Annenberg School of Communications

On generating data in communication research. J Commun, 1970, 20:3.241-269.

Distinguishes and discusses three kinds of data containing explicit evidence of processes of communication. Aggregational and network data found not rich enough; minimally required must be features of above, plus dynamic properties, particularly some potential of showing predictability over time. 36 refs.

1656.70

MARKEL, JOHN D.; CAREY, BERNARD

Univ. of California, Santa Barbara, Calif.

Digital voice processing with a wave function representation of speech. In: 1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 387-397.

Description of digital voice processing approach, 'Wave Function Analysis and Synthesis System', a time domain system capable of generating natural sounding synthetic speech. 14 figures, 10 refs. - *From the author.*

1657.70
MIHĂILESCU, LUCREŢIA; VOINESCU, I.; FRADIS, A.
Institute of Neurology, Bucharest (Romania)
[Aspects of aphasic vocabulary] Aspects du vocabulaire chez les aphasiques. Rev Roum Linguist, 1968, 13:4.331-342. In French.

Discussion of statistical analysis of aphasic vocabulary; relevance of word-frequency studies in describing relation between vocabulary and length of text. Analysis confirms views of Howes that aphasic vocabulary is not reduced, the observed reduction being a problem of length of sample; vocabulary structure is, however, modified. Also confirms Herdan that frequency of word use is modified because aphasic loses sense of correct frequency. 15 refs. – *Transl. from the author.*

1658.70
OPPERMANN, ALFRED
[Cybernetics dictionary: German-English, English-German] Wörterbuch Kybernetik: Deutsch-Englisch, Englisch-Deutsch. Munich-Pullach: Verlag Dokumentation, 1969, 241 p. In German and English.

1659.70
RAPOPORT, ANATOL
Univ. of Michigan, Ann Arbor, Mich., Mental Health Research Institute
The impact of cybernetics ideas on psychology. Kybernetika, 1969, 5:5.363-383. In English; summary in Czech.

Impact of cybernetics ideas on psychology in area of mind-body problem, on theories of the nervous system, and on social-ethical problems arising as consequences of automated technology. 10 refs. – *From the journal abstract.*

1660.70
ROSENBERG, SHELDON; JARVELLA, ROBERT J.
Univ. of Illinois at Chicago Circle, Chicago, Ill., Dep. of Psychology
Semantic integration and sentence perception. J Verbal Learn & Verbal Behav, 1970, 9:5.548-553.

Report of experiment testing incidental recall/learning as affected by quiet and by noise. Contextual features utilized when intelligibility reduced by noise have no effect of semantic integration without noise. 15 refs.

1661.70
SHARMA, ONKAR P.
New York Univ., Bronx, N.Y., Dep. of Electrical Engineering
A system for syntax specification in on-line pattern recognition. TR-403-13. Contract N00014-67-A-0467-0010. September 1970, 58 p. [NTIS: AD 714 017].

Necessary to have a pattern recognition scheme to make natural and direct graphic input possible. Presentation of algorithm that builds an efficient grammar for different classes of pattern sets in a uniform and optimal way based on linguistic approach. Suggestion of data structure appropriate for efficient implementation of the algorithm. – *From the 'R&D Reports' author abstract.*

1662.70
SHARMA, ONKAR P.
New York Univ., Bronx, N.Y., Lab. for Electroscience Research
Technical report. TR-403-12. Contract N00014-67-A-0467-0010. May 1970, 122 p. [NTIS: AD 714 526].

Various concepts from language theory extended to describe and analyze two-dimensional patterns. Emphasis on development of flexible descriptive metalanguage and compatible table-driven analyzer. Time included in the syntax specification, permitting syntax-directed analysis of on-line, handdrawn, two-dimensional patterns and automatic syntax specification for different classes of finite pattern sets. Description of a unidirectional, table-driven analyzer for checking the syntax also included. – *From the 'R&D Reports' author abstract.*

1663.70

SMITH, SIDNEY L.; GOODWIN, NANCY C.

Mitre Corp., Bedford, Mass.

Computer-generated speech and man-computer interaction. Hum Factor, 1970, 12:2.215-223.

Large scale use of talking computers may be anticipated. Recommended features include user pacing and optional repetition of speech output in a transactional sequence, use of different voices and other auditory coding to distinguish different types of output, and use of tone codes to indicate required input. 11 refs. – *From the author abstract.*

1664.70

SOTINA, N. M.; BURLAI, JU. P.

A device with learning capability. March 1969, 8 p. (Edited translation of USSR patent 200 888 pl-3, 19 August 1966, by L. Thompson.) [NTIS: AD 697 552].

Discussion of device with learning capability containing input, storage, arithmetic and output units; ability to increase its number of recognizable patterns, facility to replace one pattern by another and increase its speed. – *From the 'RIE' author abstract.*

1665.70

WINSTON, PATRICK H.

Learning structural descriptions from examples. Ph.D. thesis, Massachusetts Institute of Technology, 1970, 267 p. MAC-TR-76. Contract Nonr-4102(02). [NTIS: AD 713 988].

Research on how a machine can recognize concepts and learn concepts to be recognized. Explanations found in computer programs that build and manipulate abstract descriptions of scenes such as those children construct from toy blocks. One program uses sample scenes to create models of simple configurations like the three-brick arch. Another uses the resulting models in making identifications. Emphasis on good descriptions when exploring how machines can come to perceive and understand the visual environment. – *From the 'R&D Reports' author abstract.*

See also 1239.

SERIAL ANNOUNCEMENTS

Linguistic communications. Clayton, Victoria, Australia: Monash Univ., Deps. of Classical Studies, French, Japanese, Linguistics, and Russian. 1970--. Irregularly.

First issue (mimeographed) contains four preprints and articles, one abstract of research in progress, and book notes and bibliography.

REVIEWS

The number which appears with a review entry refers to the original listing in 'Language and Automation'. The last digit enumerates the reviews of this work published in 'Language and Automation'. The source of the review and the reviewer's name follow the symbol ▪ .

1200.70-1

MELTZER, BERNARD; MICHIE, DONALD, eds.

Machine intelligence 5, 1970. ▪ Comput J, 1970, 13:4.400, J. J. Florentin.

1248.70-1

BLOIS, J.; BUYDENS, J.; GOUGENHEIM, G. et al.

[Problems of automatic translation] Problèmes de la traduction automatique, 1968. ▪ Rev Roum Linguist, 1969, 14:5.491-494, Sanda Golopentia-Eretescu. In French.

1548.70-1

SCHANE, SANFORD

French phonology and morphology, 1968. ▪ Rev Roum Linguist, 1969, 14:3.300-303, Mariana Tuţescu.

1622.70-1

MALKIEL, YAKOV

Essays on linguistic themes, 1968. ▪ Rev Roum Linguist, 1969, 14:4.415-416, Liana Lupaş. In French.

1634.70-1

WARTBURG, WALTHER VON

Problems and methods in linguistics, 1970. ▪ Lang & Style, 1970, 3:2.159-160, J. McH. Sinclair.

EXTENDED AVAILABILITY

Entries in this section provide new availability information on documents previously listed in 'Language and Automation'. The number which appears with an entry refers to the original listing. The last digit enumerates the additional availability data for the work.

310.70-1
LEKAN, HELEN A., ed.
Index to computer assisted instruction, 2nd. ed., 1970. Boston: Sterling Institute, 1970, 295 p. $19.50.

520.70-1
MARCUS, SOLOMON
Contextual grammars, 1969. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 48.

738.70-1
GLANTZ, RICHARD S.
SHOEBOX: A personal file handling system for textual data, 1970. In: 1970 fall joint computer conference. AFIPS conference proceedings. Vol. 37 (Montvale, N.J.: AFIPS Press, 1970), 535-545. [ERIC: ED 041 612 HC$1.95 MF$0.25].

839.70-1
FRIEDMAN, JOYCE B.
FORTRAN implementation of the Kay context-free parser. SIGSAM Bull (Spec Int Group of ACM/Symb & Algeb Manip), 1970, 16.19-45.

897.70-1
GAMMON, EDWARD
Quantitative approximation to the word, 1969. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 12. 27 p.

908.70-1
VERBURG, P. A.
Hobbes' calculus of words, 1970. Proceedings of the international conference on computational linguistics, 1-4 September 1969, Sånga-Säby, Sweden. In preparation. Preprint no. 39. 11 p.

945.70-1
CASE WESTERN RESERVE UNIV., Cleveland, Ohio, Center for Documentation and Communication Research
A selected bibliography of library and information science, 1970. ERIC: ED 041 605 HC$1.00 MF$0.25.

1013.70-1
FILLMORE, CHARLES J.
Subjects, speakers, and roles, 1970. Synthese, 1970, 21:3/4.251-274.

1140.70-1
HANSEN, DUNCAN N., et al.
Existing CAI curriculum materials at the FSU-CAI Center, 1970. ERIC: ED 041 486 HC$1.55 MF$0.25.

Correction

On page 82 of *L&A* 3 Schnelle, H. was incorrectly listed as the author of [Logical syntax of language] Logische Syntax der Sprache, 2. Auflage. The author line should have read Carnap, Rudolf; H. Schnelle should have appeared as the reviewer.

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